# STR-AV880

# SERVICE MANUAL

*US Model*

## SPECIFICATIONS

### AUDIO OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 – 20,000 Hz, rated 110 watts per channel minimum RMS power, with no more than 0.006% total harmonic distortion from 250 milliwatts to rated output.

### OTHER SPECIFICATIONS

**Amplifier section**

Dynamic power output
170 watts + 170 watts (8 ohms, at 1 kHz IHF)
210 watts + 210 watts (6 ohms, at 1 kHz IHF)
250 watts + 250 watts (4 ohms, at 1 kHz IHF)

Harmonic distortion
Less than 0.006% at rated output

Intermodulation (IM) distortion
(60 Hz : 7 kHz = 4 : 1)
Less than 0.006% at rated output

Frequency response
PHONO: RIAA equalization curve ± 0.5 dB
CD/AUX, VIDEO 1, 2 (audio), TV (audio), TAPE 1, 2: 5 Hz – 100 kHz +0 −3 dB

Residual noise: Less than 70 μV (8 ohms, network A)
Damping factor: 50 (8 ohms, 1 kHz)

Inputs

| | | Sensitivity | Impedance | S/N (weighting network, input level) |
|---|---|---|---|---|
| PHONO | MM | 2.5 mV | 50 kilohms | 87 dB<br>79 dB* (A, 2.5 mV) |
| | MC | 0.25 mV | 100 ohms | 69 dB<br>78 dB* (A, 0.25 mV) |
| CD/AUX<br>VIDEO 1, 2 (audio)<br>TV (audio)<br>TAPE 1, 2 | | 150 mV | 50 kilohms | 105 dB<br>86 dB* (A, 150 mV) |

*'78 IHF

Outputs
REC OUT 1, 2, VIDEO 1 AUDIO OUT
Voltage 150 mV
Impedance 10 k ohms
SPEAKER A, B
Accepts speakers of 8 – 16 ohms.
HEADPHONES
Accepts low and high impedance headphones.

— Continued on page 2 —

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

## FM STEREO/FM-AM RECEIVER

SONY®

AUD

MICROFILM

| | |
|---|---|
| Tone controls | BASS<br>±6 dB at 100 Hz<br>TREBLE<br>±8 dB at 10 kHz |
| Subsonic filter | 6 dB/oct. attenuation below 15 Hz |

**Video section**

| | |
|---|---|
| Inputs | TV, VIDEO 1, 2: 1 Vp-p, 75 ohms unbalanced |
| Outputs | VIDEO 1, MONITOR VIDEO OUT: 1 Vp-p, 75 ohms unbalanced |

**FM tuner section**

| | |
|---|---|
| Tuning range | 87.5 MHz - 108 MHz |
| Antenna terminals | 75 ohms, unbalanced (2) |
| Intermediate frequency | 10.7 MHz |
| Sensitivity at 50 dB quieting | 16.1 dBf, 3.5 μV (mono)<br>38.3 dBf, 45 μV (stereo) |
| Usable sensitivity | 10.3 dBf, 1.8 μV (IHF) |
| Signal-to-noise ratio | 82 dB (mono), 76 dB (stereo) |
| Harmonic distortion | 0.05% (mono), 0.1% (stereo) at 1 kHz, WIDE |
| IM distortion | 0.05% (mono), 0.1% (stereo), WIDE |
| Separation | 50 dB at 1 kHz, WIDE |
| Frequency response | 30 Hz - 15 kHz $^{+0.5}_{-1.5}$ dB |
| Selectivity | 65 dB at 400 kHz, NORMAL<br>30 dB at 400 kHz, WIDE |
| Capture ratio | 1.2 dB |
| AM suppression ratio | 54 dB |
| Image response ratio | 80 dB |
| IF response ratio | 90 dB |
| Spurious response ratio | 100 dB |
| RF intermodulation | 65 dB |
| Searching threshold | LOW 30 dBf, MID 40 dBf,<br>HIGH 50 dBf |

**AM tuner section**

| | |
|---|---|
| Tuning range | 530 - 1,610 kHz (with the AM tuning interval set at 10 kHz)<br>531 - 1,602 kHz (with the AM tuning interval set at 9 kHz) |
| Antenna | Layout-free antenna<br>External antenna terminal |
| Intermediate frequency | 450 kHz |
| Usable sensitivity | 50 dB/m, layout-free antenna (at 1,000 kHz)<br>100 μV, external antenna terminal (at 1,000 kHz) |
| Signal-to-noise ratio | 54 dB (at 50 mV/m) |
| Harmonic distortion | 0.3% (at 50 mV/m, 400 Hz) |
| Selectivity | 40 dB (10 kHz) |
| Searching threshold | 55 dB/m |

**General**

| | |
|---|---|
| System | Tuner section: PLL quartz-locked digital synthesizer system<br>Preamplifier section: low-noise NF type equalizer amp<br>Power amplifier section: pure-complementary SEPP |
| Power requirements | 120 V AC, 60 Hz |
| Power consumption | 200 watts |
| AC outlets | Two switched (total 100 watts) |
| Dimensions | Approx. 430 × 130 × 345 mm (w/h/d) (17 × 5⅛ × 13⅝ inches) including projecting parts and controls |
| Weight | Approx. 9.6 kg (21 lb 3 oz) net<br>Approx. 10.8 kg (23 lb 13 oz) in shipping carton |
| Accessories supplied | FM ribbon antenna (1)<br>AM layout-free antenna (1)<br>External antenna connector (1)<br>RM-U880 Remote Commander with two size AA (IEC designation R6) batteries and a 4-pin flat cord |

Design and specifications subject to change without notice.

## FEATURES

The STR-AV880 is a combined receiver and audio/video control center that allows you to enjoy with maximum convenience a variety of audio/video program sources—CD (Compact Disc), record, tape, TV, hi-fi video, and more.

- A surround sound system gives your living room the acoustics of a movie theater or a concert hall.
- The ASP (Audio Signal Processor) IC developed by Sony can digitally control the tone and volume settings, and permits electronic program source selection with a single touch of a key.
- The ASP IC also offers an acoustic memory function, an ability to store and recall three sets of tonal adjustments, and a volume fade-in function, an ability to set the volume to the minimum level when the power is turned on and automatically increase it to a previously set level.
- A quartz-locked digital synthesizer system with a sophisticated Phase-Locked Loop (PLL) circuit allows extremely precise tuning of FM and AM stations with an electronic digital readout in the display window. A total of 10 stations can be preset.
- The computerized logic tuning system automatically selects the appropriate FM mode and FM IF band according to the signal strength of the station received.
- The station spectrum display allows you to identify at a glance the frequencies of all preset stations or stations which are receivable with station scan tuning.
- Video tapes can be edited between two hi-fi video cassette recorders connected. During video tape editing, other audio program sources can be enjoyed and added onto the video tape.
- Independent TV tuner inputs are provided besides the two video inputs.
- Front video inputs allows temporary connection of a portable VCR, etc.
- CATV cable can be connected directly to the receiver, making FM simulcast program reception easily.
- The RM-U880 Remote Commander allows you to control the components connected to the receiver from a distance.

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## SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

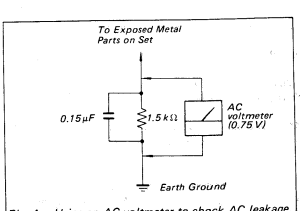
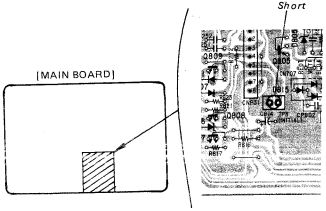



*Fig. A. Using an AC voltmeter to check AC leakage.*

## Notes on Repair

### Initialization

For abnormal operation, or when replacing the lithium battery or microcomputer, short the main board INITIAL pin when power is on. The microcomputer is initialized and operation begins from initial state.
When the microcomputer is operating, the I/O CLOCK port constantly generates a CLOCK pulse.

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**To change the AM tuning interval**
The AM tuning interval is preset at the factory to 10 kHz to match the frequency allocation system of your country. If you use the receiver where the frequency allocation system is based on a 9 kHz interval, change the interval as follows.

**1** Depress the MAIN POWER switch to turn on the unit.

**2** Press the SYSTEM POWER switch to turn off the unit.

**3** While pressing the " + " STATION SCAN key, press the SYSTEM POWER switch to turn the unit on.

The AM tuning interval has been set to 9 kHz. To reset the interval to 10 kHz, follow the same procedure.

**Note**
When the interval is changed, all preset and located stations and acoustic settings will be erased. After changing the interval, memorize the stations and acoustic settings again.

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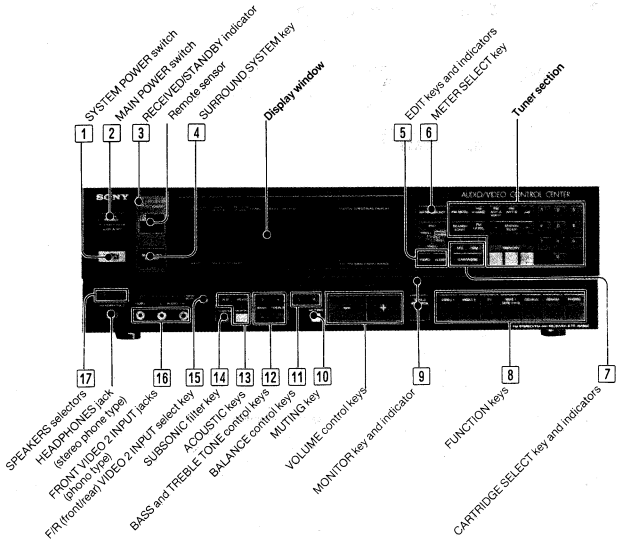
## LOCATION AND FUNCTION OF CONTROLS

**Amplifier section**




**1 SYSTEM POWER switch**
First turn the MAIN POWER switch on and then press this switch to turn the receiver and connected components on and off.
You can operate the switch from a distance with the RM-U880 Remote Commander.

**2 MAIN POWER switch**
Depress to turn the mains power on.

**3 RECEIVED/STANDBY indicator**
Lights when the mains power is turned on and blinks when a key on the Remote Commander is pressed.

**4 SURROUND SYSTEM key**
When listening to a stereo source, press to give your living room the acoustical atmosphere of a movie theater or a concert hall. Press it again to disengage the surround sound system.



**5 EDIT keys and indicators**
**AUDIO:** For recording an audio program source on a video tape or adding that source to a video tape during video tape editing
**VIDEO:** For recording TV programs from the connected TV tuner on a video tape or editing a video tape from VCR 2 to VCR 1

**6 METER SELECT key**
Press to select the power output spectrum display or signal strength meter display, and the ATT (volume attenuator) or SIGNAL (signal strength) indicator display. In TUNER mode, each time the key is pressed, the spectrum display will change from normal power output display to 1/10 scale power output display to SIGNAL strength meter display, successively. The ATT indicator will change to SIGNAL indicator when the SIGNAL strength meter display is selected.
In function modes other than TUNER, normal or 1/10 scale power output spectrum display can be selected.

**7 CARTRIDGE select key and indicators**
This key functions when the PHONO FUNCTION key is pressed.
For moving-coil type cartridges, press this key so that the MC indicator lights. For moving-magnet type cartridges, press this key again so that the MM indicator lights.

**8 FUNCTION keys**
**PHONO:** For record programs
**FM/AM:** For broadcasting programs
**CD/AUX:** For compact disc or auxiliary programs
**TAPE 1 (TAPE 1 → 2):** For taped programs of tape deck 1 (connected to TAPE 1 inputs)
**TV:** For TV programs from the TV tuner (connected to TV inputs)
**VIDEO 2:** For video programs of VCR 2 (connected to the front or rear video 2 inputs)
**VIDEO 1:** For video programs of VCR 1 (connected to VIDEO 1 inputs)

**9 MONITOR key and indicator**
To listen to taped programs of tape deck 2 (connected to TAPE 2 inputs), press this key to turn on the MONITOR indicator. To listen to program sources other than tape deck 2, press the key again to turn the indicator off.

**10 MUTING key**
Press to attenuate the sound level by ∞ dB. Press again to restore the same sound level as before.

**11 BALANCE control keys**
Govern the amount of sound coming from each paired speaker to get optimum stereo effect. Press R key to decrease the left channel volume, and L key to decrease the right channel volume.

**12 BASS and TREBLE TONE control keys**
Control the prominence of bass and treble response.

**13 ACOUSTIC keys**
**FLAT:** Press to disengage the acoustic setting for a flat frequency response.
**SELECT:** Press to select the acoustic memory number to memorize an acoustic setting or to recall the memorized setting.
**MEMORY:** Press to start memorizing an acoustic setting.

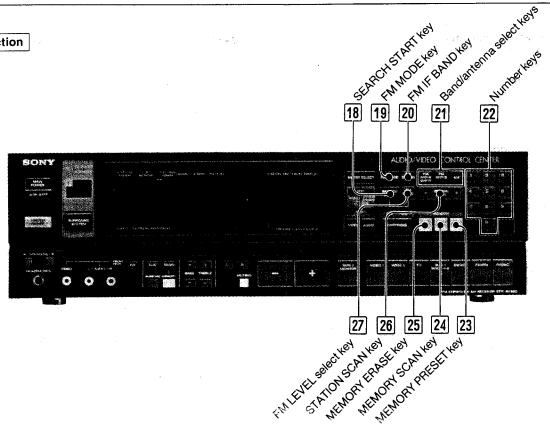
**14 SUBSONIC filter key**
Press to reduce unwanted subsonic noise components created by warped records, etc. The filter will cut off any input signals below 15 Hz at a 6 dB-per-octave rate. Press it again to disengage the filter.

**15 F/R (front/rear) VIDEO 2 INPUT select key**
Press to select the front or rear video 2 inputs after pressing the VIDEO 2 FUNCTION key. The selected video 2 inputs are indicated by the video 2 input indicator, "FRONT" or "REAR", in the display window.

**16 FRONT VIDEO 2 INPUT jacks**
Connect to the video and audio outputs of a VCR for playback, TV tuner, etc.

**17 SPEAKERS selectors**
To drive speaker system A: depress A button.
To drive speaker system B: depress B button.
To drive both speaker systems: depress A and B buttons.
For headphone listening only: Keep both buttons released.

## Tuner section




**18 SEARCH START key**
Press to start searching receivable stations.

**19 FM MODE key**
When an FM station is tuned in, the receiver determines the signal strength of the station and is automatically set to the appropriate FM mode: STEREO for a strong station or HI-BLEND for a slightly weak station.
Press this key when you want to change the FM mode manually so that the desired FM mode indicator is displayed.
**HI-BLEND:** When receiving a slightly weak station. Stereo effects at higher frequencies will be slightly reduced but noise will be reduced.
**MONO:** When receiving a very weak station. There is not stereo effect but the reception will be more stable and noise will be reduced.

**20 FM IF BAND key**
When an FM station is first tuned in (except by preset tuning), the receiver determines if there is likely to be interference from an adjacent station. If there is not, the IF band is automatically changed from normal (⌒) to wide (⌒).
Press this key to change the IF band manually. The IF band selected will be indicated in the display window.

**21 Band/antenna select keys**
**FM ANT-A (CATV):** For receiving FM broadcast using the FM antenna connected to the CATV ANT-A connector or cable TV programs when the CATV cable is connected
**FM ANT-B:** For receiving FM broadcast using the FM antenna connected to the FM ANT-B connector
**AM:** For receiving AM broadcast

**27 Number keys**
**For direct access tuning:** After pressing the band/antenna select key, press to input the frequency of the desired station.
**For preset tuning:** After pressing the MEMORY PRESET key, press to memorize the station being received. Also press to call up a preset station.

**23 MEMORY PRESET key**
Press to memorize the frequency of a station.

**24 MEMORY SCAN key**
Press to scan automatically the stations memorized on the number keys.

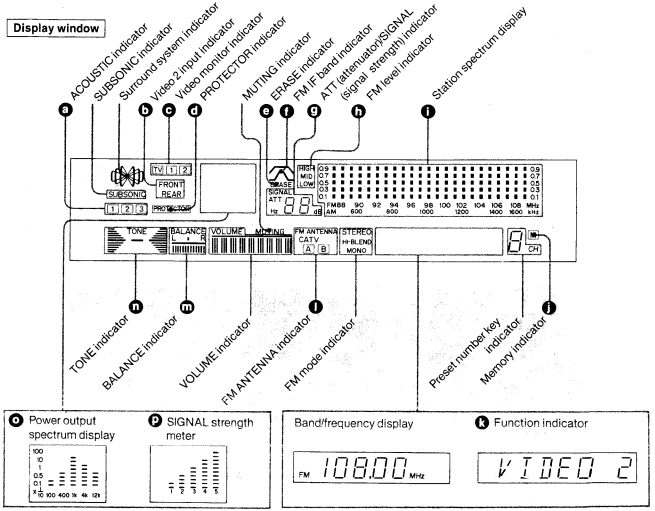
**25 MEMORY ERASE key**
Press to erase the memory of the station located by station searching.

**26 STATION SCAN key**
Press to scan the receivable stations located by station searching.

**27 FM LEVEL select key**
Press to select the level of FM stations to be tuned in so that the desired FM level indicator is displayed.
**LOW:** To tune in both strong and weak stations
**MID:** To tune in strong and mid-level stations
**HIGH:** To tune in strong stations only

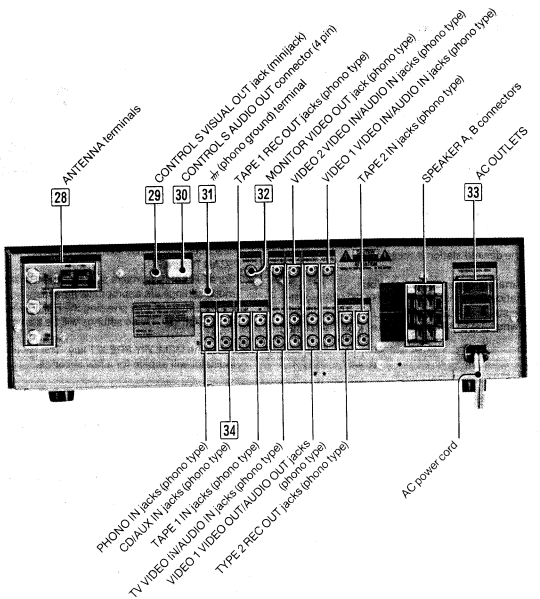


## Display window




**a ACOUSTIC indicator**
Shows the number of the acoustic setting memory, 1, 2 or 3.
**b Video 2 input indicator**
Indicates the selected front or rear video 2 inputs.
**c Video monitor indicator**
The indication 1 appears when the VIDEO 1 FUNCTION key is pressed; 2 appears when the VIDEO 2 key is pressed; TV appears when the TV key is pressed.
**d PROTECTOR indicator**
Appears when the protection circuit against a short-circuit is activated.
**e ERASE indicator**
Appears when the MEMORY ERASE key is pressed.
**f FM IF band indicator**
The selected FM IF band is graphically displayed: ⌒ (wide) or ⌒ (normal).
**g ATT (attenuator)/SIGNAL (signal strength) indicator**
Normally the volume attenuation level is indicated in dB. When the METER SELECT key is pressed in TUNER mode, the signal strength is indicated in dB.
**h FM level indicator**
The FM station level selected by the FM LEVEL select key is displayed.
**i Station spectrum display**
The frequencies of the receivable stations located by station searching are shown by the squares. When a station is tuned in, the corresponding square flashes.
**j Memory indicator**
Appears when the MEMORY PRESET key is pressed.
**k Function indicator**
Indicates the selected program other than broadcasts.
**l FM ANTENNA indicator**
The CATV A appears when the FM ANT-A (CATV) key is pressed; B appears when the FM ANT-B key is pressed.
**m BALANCE indicator**
Indicates the relative strength of the volume at the left and right speakers.
**n TONE indicator**
Graphically shows the tone control characteristics. A straight bar graph indicates a flat frequency response.
**O Power output spectrum display**
The power output (in wattage) is displayed in five frequency bands.
When the METER SELECT key is pressed, the "x 1/10" indication appears to indicate that the scale numbers are read by 1/10 (i.e. for 0.1, read 0.01.)
**P SIGNAL strength meter**
When the METER SELECT key is pressed in TUNER mode, the received signal strength is indicated in five steps.

Rear




**28 ANTENNA terminals**
**AM and ⏚ (antenna ground):** Connect an AM antenna.
**CATV ANT-A IN (F-type):** Connect an FM antenna or CATV cable.
**CATV ANT-A OUT (F-type):** This connector supplies the signals connected to the CATV ANT-A IN connector to a VCR, TV tuner or another FM tuner.
**FM ANT-B (F-type):** Connect an FM antenna.

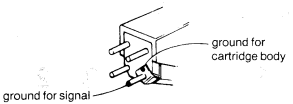
**29 CONTROL S VISUAL OUT jack**
Used to extend the utility of this unit by providing for the connection of optional video equipment which will be available in the future.

**30 CONTROL S AUDIO OUT connector**
Connect to the CONTROL S IN or REMOTE IN connector of other Sony equipment using a 4-pin flat remote control cord in order to control the audio system using the RM-U880 Remote Commander.



**31 ⏚ (phono ground) terminal**
Connect the ground wire of a turntable system.

**Note**
In some particular MM cartridges, the ground for signal is connected to the ground for cartridge body. If this type of cartridge should be installed to a metal cartridge shell, current will flow through the tonearm ground in a loop and will cause hum noise. In this case, disconnect the turntable ground wire from the ⏚ terminal, or disconnect the ground for cartridge body from the ground for signal.




**32 MONITOR VIDEO OUT jack**
Connect to the video input of a component TV. The video signal selected by the TV, VIDEO 1 or VIDEO 2 FUNCTION key and the F/R key is output here.

**33 AC OUTLETS (SWITCHED)**
These are used to power other audio components whose power consumption is less than the wattage indicated on the outlets.

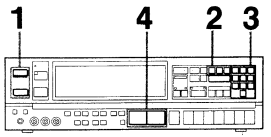
**34 CD/AUX (compact disc/auxiliary) IN jacks**
Connect to the output jacks of a compact disc player or a tape deck for playback.

## TO RECEIVE FM/AM BROADCAST

Before tuning, select the speaker system with the SPEAKERS selectors.

### DIRECT ACCESS TUNING

When you know the frequency of the station to be received, input it with the number keys.

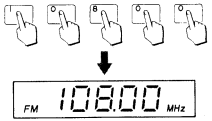



**1** Depress the MAIN POWER switch and press the SYSTEM POWER switch.

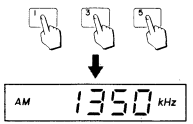
**2** Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

**3** Input the frequency using the number keys.

**Examples**
**FM 108.00 MHz**




**AM 1350 kHz**



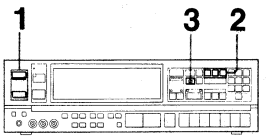

**4** Adjust the VOLUME control keys to your preference.

**Notes on AM direct access tuning**
- As the AM tuning interval is preset at the factory to 10 kHz, you need not input the last digit "0" of the frequency when the first two or three digits are input.
- If you change the 10 kHz AM tuning interval to 9 kHz, input the frequency to the last digit. See "How to change the AM tuning interval" on page 3.

**If you input a wrong frequency**
- Press the appropriate band/antenna select key again and input the correct frequency.
- If you input a frequency outside the receiver's frequency range (FM 87.5 to 108 MHz; AM 530 to 1,610 kHz), the figures will flash in the display window. In this case, press the appropriate band/antenna select key and input the correct frequency.

### STATION SEARCHING

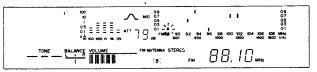
Before station scan tuning, find out receivable frequencies of stations by station searching.




**1** Depress the MAIN POWER switch and press the SYSTEM POWER switch.

**2** Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

**3** Press the SEARCH START key.
The receiver searches receivable stations in the band from the lowest frequency to the highest frequency and the stations located are indicated by the squares on the station spectrum display.
Searching will stop automatically at the lowest frequency station located.




Repeat these steps for each band (FM and AM).
Once the stations are located, they are retained in memory.

When only a few FM stations or none located, change the level of the stations to MID or LOW with the FM LEVEL key. The squares indicating the stations with the selected level will appear on the station spectrum display.



### STATION SCAN TUNING

Once all receivable stations in your area are located by station searching, you can select the desired station quickly while scanning the stations located.

**1** Press the FM ANT-A (CATV), FM ANT-B or AM key. The "0" indication will blink.

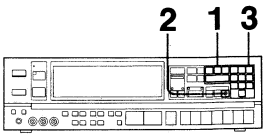
**2** Input any frequency within the band using the number keys.

**3** Press the STATION SCAN key.
Press the "+" side for higher frequencies or the "−" side for lower frequencies.
Each time you press "+" or "−", a higher or lower frequency station will be tuned in.
If you keep the key depressed, the receivable stations will consecutively be tuned in for several seconds. Release the key when the desired station is received.

**To erase the memory of a located station**
Tune in the station and press the MEMORY ERASE key. The memory of the station will be erased and the station will be skipped over when the STATION SCAN key is pressed later.

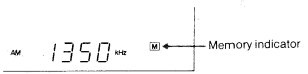
### MEMORY PRESETTING

Once the frequencies of the stations you want to tune in are memorized, all you have to do is to press a number key. A total of 10 stations can be memorized, one to each number key, in any desired sequence.

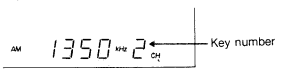



**1** Tune in the desired station following the procedure described in "DIRECT ACCESS TUNING" or "STATION SCAN TUNING".
For an FM station, make sure that the IF band and FM mode settings are appropriate. If necessary, change the settings manually by pressing the FM IF BAND key and FM MODE key. These settings will be also memorized.

**2** Press the MEMORY PRESET key. The M (memory) indicator will appear for a few seconds.




**3** While the indicator is displayed, press the desired number key. The number of the pressed key will appear.
The frequency is now memorized.




Repeat these steps for each number key.

**Notes**
- If the memory indicator has gone off, the station cannot be memorized. Press the MEMORY PRESET key again and proceed to step 3.
- If you preset another station to a key on which you have already preset a station, the first station will be erased. You cannot erase a station without presetting another station.

### PRESET TUNING

You can receive a station only by pressing one of the number keys to which the station has been memorized.

**Memory of the last station received**
This receiver includes a memory circuit to remember the station being received just before the power was turned off. The station will be automatically tuned in when the power is turned on again.

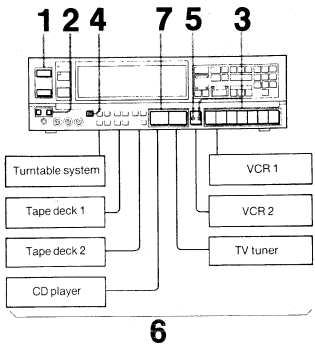
### MEMORY SCANNING

This function allows you to quickly hear what kind of programs are being broadcast by the memorized stations. When you press the MEMORY SCAN key, the memorized stations are automatically tuned in for several seconds each.

**To stop scanning,** press the appropriate number key.

## TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

For details on connections, see the connection diagrams on pages 19 through 24.




**1** Turn on the receiver and connected equipment.

**2** Select the speaker system with the SPEAKERS selectors.

**3** Select the program source by pressing the desired FUNCTION key or MONITOR key.

**4** When the VIDEO 2 FUNCTION key is pressed, select the front or rear video 2 inputs with the F/R key.

**5** If the MONITOR indicator lights when listening to a program source other than tape deck 2, press this key to disengage it.

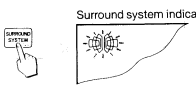
**6** Start the program.

**7** Adjust the VOLUME control keys to your preference.

**Cartridge type selection (for the STR-AV880 only)**
Press the CARTRIDGE select key so that the MC (moving-coil type cartridge) or MM (moving-magnet type cartridge) lights according to the cartridge being used for your turntable system.

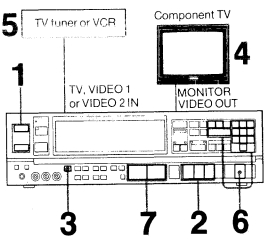
**To enjoy surround sounds**

The Surround Sound system uses a technique that creates an atmosphere peculiar to movie theaters and concert halls. You can bring the surround effect of movie theaters and concert halls to your listening room simply by pressing the SURROUND SYSTEM key. While the Surround Sound system is engaged, the surround system indicator lights in the display window. To disengage the system, press the SURROUND SYSTEM key again.




## RECEIVING FM SIMULCAST TV PROGRAMS

By connecting a component TV and a TV tuner or VCR, you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the TV program.




**1** Depress the MAIN POWER switch and press the SYSTEM POWER switch.

**2** Press the TV, VIDEO 1 or VIDEO 2 key.

**3** When the VIDEO 2 key is pressed, select the front or rear video 2 inputs with the F/R key.

**4** Turn on the component TV.

**5** Select the desired TV program with the TV tuner or VCR.

**6** Press the FM/AM key of the receiver and tune in the FM simulcast TV program.

**7** Adjust the VOLUME control keys to your preference.

## RECEIVING FM SIMULCAST CABLE TV PROGRAMS

By connecting the CATV cable to this receiver, you can receive FM simulcast cable TV programs while viewing the picture, without using a signal splitter.
For connection, see "CATV cable connection" on page 25.

**1** Depress the MAIN POWER switch and press the SYSTEM POWER switch.

**2** Turn on the component TV.

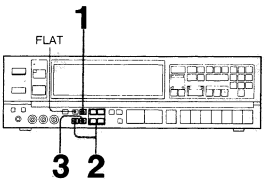
**3** Press the TV, VIDEO 1 or VIDEO 2 and F/R key, and select the desired CATV program with the TV tuner or VCR.

**4** Press the FM ANT-A (CATV) key and tune in the FM simulcast cable TV program on the receiver.

**5** Adjust the VOLUME control keys to your preference.

## TO SET THE ACOUSTIC SETTINGS

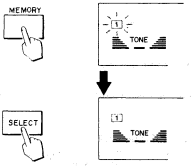
The receiver can store and recall three different tone control settings to easily set the tone controls to match different types of music.




**1** Press the SELECT key to select the acoustic memory number [1], [2] or [3]. With each press of the key, the number displayed in the window changes.

**2** Adjust the tonal quality with the TONE control keys and SUBSONIC key to your preference. The acoustic memory number will disappear.

**3** Press the MEMORY key. While the acoustic memory number flashes, press the SELECT key.
The acoustic setting is now memorized.




Repeat steps 1 to 3 for the other acoustic memory numbers.

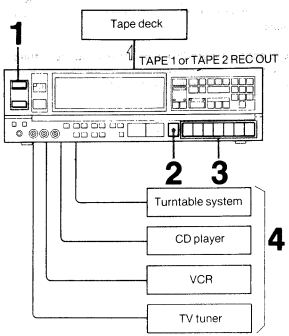
The receiver retains the contents of the memory even when the power is off.
When a new acoustic setting is memorized, the previous setting will be erased.

**To check the acoustic setting**
Press the FLAT key. A flat frequency response results. Then press the SELECT key to recall the original setting. Now compare the effect of the setting with the flat frequency response.

**To change temporarily a part of the acoustic setting**
Simply change the part of the acoustic setting you want. You can recall the original setting later by pressing the SELECT key.

## TO RECORD ON AN AUDIO TAPE

### RECORDING




**1** Turn on the receiver, tape deck and desired program source.

**2** If the MONITOR indicator lights, press this key to disengage it.

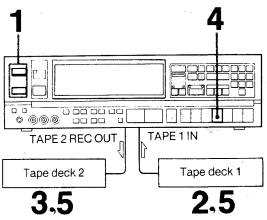
**3** Select the desired program source with the FUNCTION key.
For an FM or AM program, tune in the desired station.

**4** Start the program source and set the tape deck in recording mode.

The volume and tone settings on the receiver do not have any effect on the recording.

### AUDIO TAPE DUBBING

To dub a tape, connect a tape deck for playback to the TAPE 1 IN jacks and a tape deck for recording to the TAPE 2 REC OUT jacks.




**1** Turn on the receiver and connected tape decks.

**2** Insert a recorded tape into tape deck 1.

**3** Insert a blank tape into tape deck 2 and adjust the recording level.

**4** Press the TAPE 1 (TAPE 1 → 2) key.

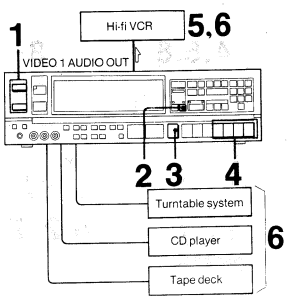
**5** Start playback on tape deck 1 and recording on tape deck 2. Dubbing will begin.

**Monitoring of a 3-head tape deck**
If you have connected a tape deck having separate record and playback heads to the TAPE 2 TAPE IN jacks, you can monitor the recording results while recording or dubbing. Press the MONITOR key. The MONITOR indicator will light and the recorded program will be heard.
Press the MONITOR key again to listen to the source sound.

## HI-FI VIDEO RECORDING

For operation of the hi-fi VCR, refer to its instruction manual.

### RECORDING AUDIO PROGRAMS




**1** Turn on the receiver and equipment to be used.

**2** Press the EDIT AUDIO key.

**3** If the MONITOR indicator lights, press this key to disengage it.

**4** Select the desired program source with the FUNCTION key.
For an FM or AM program, tune in the desired station.

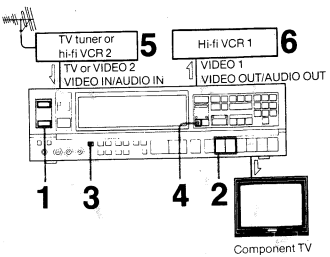
**5** Insert a video cassette into the hi-fi VCR and adjust the recording level.
Set the filter switch on the VCR to ON, if it is provided.

**6** Start the program source and set the VCR to recording mode.

The volume and tone settings on the receiver do not have any effect on the recording.

**Note**
You cannot record on a VCR connected to the video 2 input jacks.

### RECORDING TV PROGRAMS




**1** Turn on the receiver and equipment to be used.

**2** Press the TV or VIDEO 2 key.

**3** When the VIDEO 2 key is pressed, select the front or rear video 2 inputs with the F/R key.

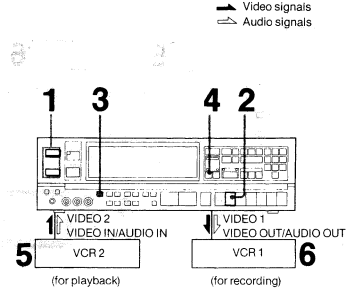
**4** Press the EDIT VIDEO key.

**5** Select the desired channel on the TV tuner or VCR 2.

**6** Set the VCR 1 to recording mode.
The TV program will be recorded on the video tape.

## VIDEO TAPE EDITING

To edit a video tape, connect a VCR for playback to the VIDEO 2 VIDEO IN/AUDIO IN jacks and a VCR for recording to the VIDEO 1 VIDEO OUT/AUDIO OUT jacks.




**1** Turn on the receiver and equipment to be used.

**2** Press the VIDEO 2 key.

**3** Select the front or rear video 2 inputs with the F/R key.

**4** Press the EDIT VIDEO key.

**5** Set the VCR 2 to playback mode.

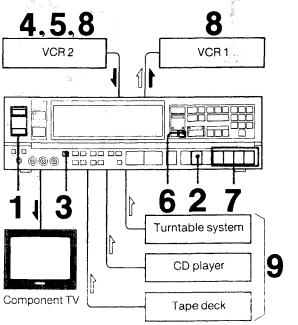
**6** Set the VCR 1 to recording mode. Editing will begin.

You can listen to an audio program source during video tape editing by pressing any FUNCTION key.

**Note**
You cannot edit a video tape from VCR 1 to VCR 2.

## ADDING NEW SOUND ON A VIDEO TAPE DURING EDITING

During video tape editing, you can replace the sound previously recorded on a video tape with the desired sound from an audio source, thus making your own personalized video tape.




**1** Turn on the receiver and connected equipment.

**2** Press the VIDEO 2 key.

**3** Select the front or rear video 2 inputs with the F/R key.

**4** Insert a recorded video tape into the VCR 2 and set it to playback mode.

**5** At the peint where audio dubbing is to start, press the PAUSE button on the VCR 2.

**6** Press the EDIT AUDIO key on the receiver.

**7** Press the desired FUNCTION key.

**8** Release the pause mode of the VCR 2 and set the VCR 1 to recording mode.

**9** Start playing the selected program source.

## CONNECTION DIAGRAMS

**Connection notes**

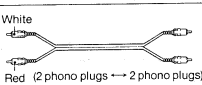
- The power cord should be connected last of all, first making sure that the MAIN POWER switch is turned off.
- When connecting program sources or tape recorders, note that the red jacks of the receiver are for right-channel audio connections, the white jacks for left-channel audio connections and the yellow jacks for video connections.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

Before connection, be sure to set the MAIN POWER switch to OFF (⏻).

**Connecting cords**

For connection, use the connecting cords listed below. The numbers in the connection diagrams are keyed to those in the list.

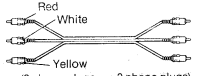
❶




(2 phono plugs ⟷ 2 phono plugs)

Supplied with audio equipment or optional Sony RK-74A connecting cord

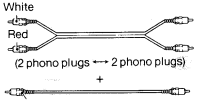
❷




(3 phono plugs ⟷ 3 phono plugs)

Optional Sony VMC-1P3 or VMC-2P3 connecting cord

or




(2 phono plugs ⟷ 2 phono plugs)

+

(phono plug ⟷ phono plug)

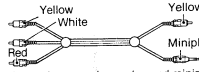
Optional Sony RK-74A + VMC-1S connecting cords

❸

(phono plug ⟷ phono plug)

Optional Sony VMC-1S connecting cord

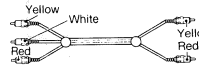
❹




(3 phono plugs ⟷ phono plug and miniplug)

Optional Sony VMC-1MP3 or VMC-2MP3 connecting cord

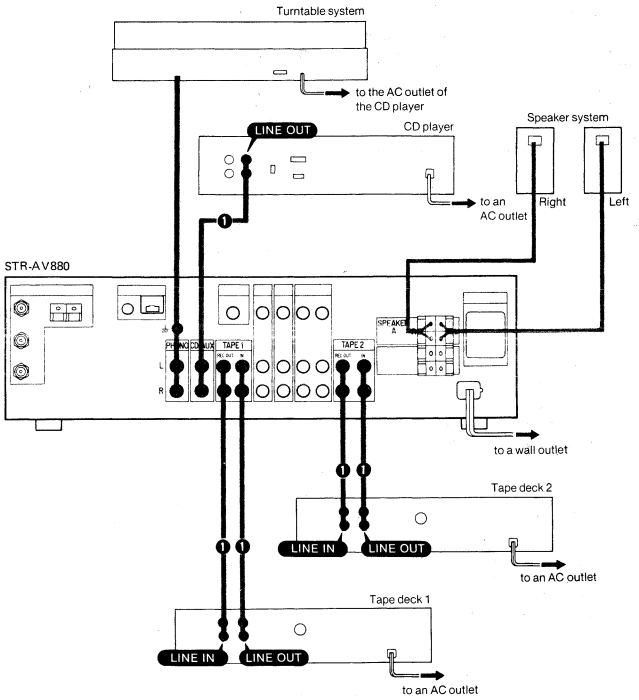
or




(3 phono plugs ⟷ 2 phono plugs)

Optional Sony VMC-608MS or VMC-609MS connecting cord

## AUDIO SYSTEM CONNECTION

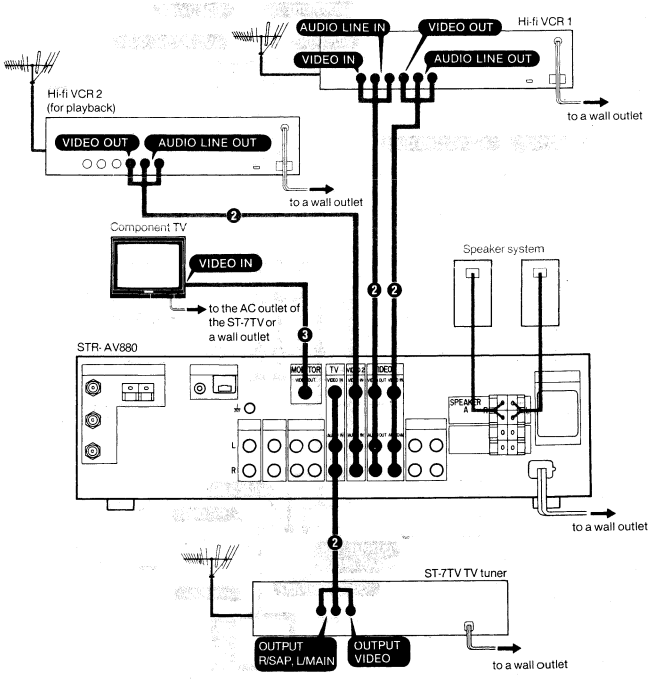


## VIDEO SYSTEM CONNECTION

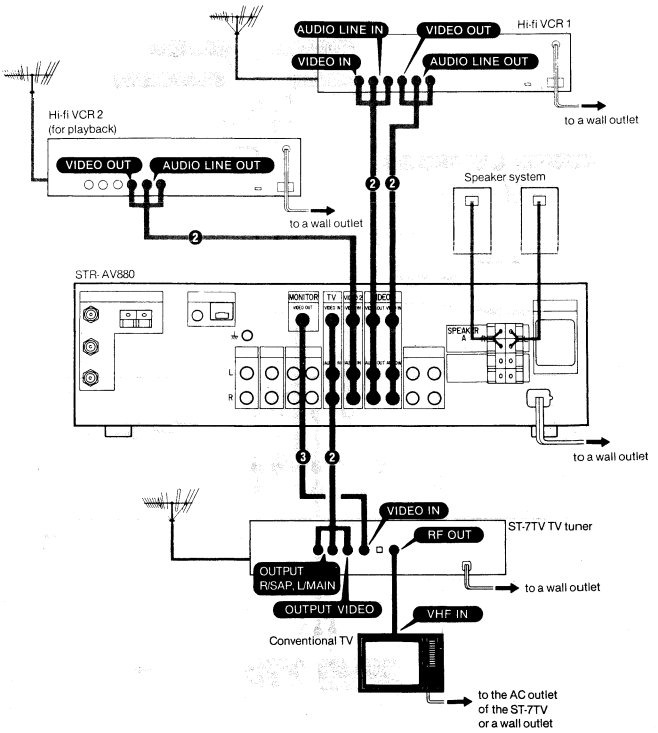
Before making connections, refer to the instruction manual of the VCR.

**Hi-fi VCR** + **Component TV** + **TV tuner**

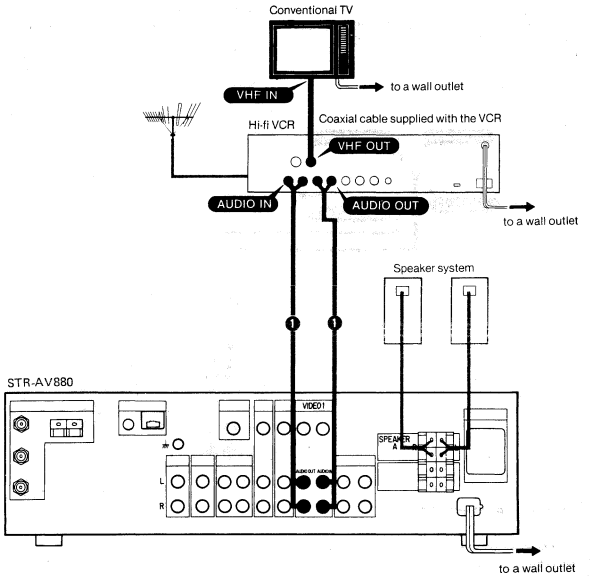
Connect a hi-fi VCR to the VIDEO 1 outputs/inputs for recording and playback and another hi-fi VCR to the VIDEO 2 inputs for playback only.



**Hi-fi VCR** + **Conventional TV** + **TV tuner**



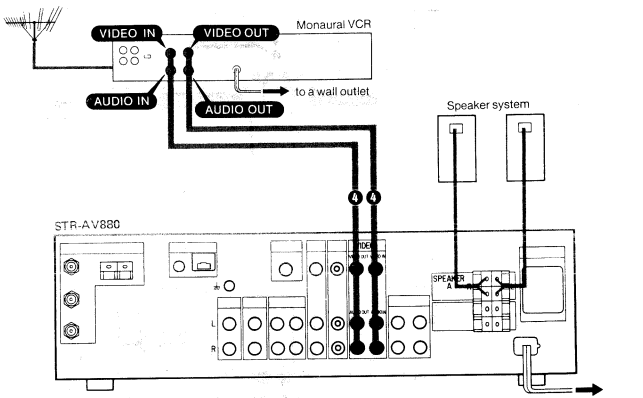
**Hi-fi VCR** + **Conventional TV**



## MONAURAL VCR CONNECTION

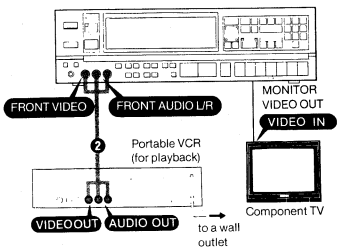
For the connection of the other equipment, refer to the diagrams indicated before.
Connect a component TV to the MONITOR VIDEO OUT jack of the receiver or a conventional TV to the VHF OUT connector of the VCR.

**Note**
If you connect a monaural VCR to the receiver and record an audio program source on a video tape or edit from VCR 2 to VCR 1, it may happen that stereo separation of the program source heard from the speakers will be worsened.




## PORTABLE VCR CONNECTION

For the connection of other equipment, refer to the diagrams indicated before.



## • IC PIN FUNCTION

### MSM6402A-144GS-K (IC321)

| Terminal No. | I/O | Name | Function | Active |
|---|---|---|---|---|
| 1 | IN/OUT | BUS CLOCK (P31) | Clock signal bus input/output pin. | L |
| 2, 3 | – | | | |
| 4 | IN | OSC 0 | Clock osc signal input pin. (4MHz) | |
| 5 | OUT | $\overline{\text{OSC 1}}$ | Clock osc signal output pin. (4MHz) | |
| 6 | IN | $\overline{\text{RESET}}$ | Reset signal input pin. | H |
| 7 | IN | TEST | TEST pin. | |
| 8 | IN | SIRCS IN (P20) | Sircs remocon signal input pin. (Interrupt side) | L |
| 9 | IN | SIRCS IN (P21) | Sircs remocon signal input pin. (read-out side) | L |
| 10, 11 | – | | | |
| 12 | OUT | RECEIVE (P00) | Sircs remocon receive indicator and stand by LED output pin. | L |
| 13 | OUT | SIRCS CONT. (P01) | Sircs remocon input control pin. | L |
| 14 | IN | TAPE/VIDEO (P02) | "L": VIDEO/TAPE input is not accepted. "H": VIDEO/TAPE input is accepted. | H |
| 15 | IN | TV (P03) | "L": TV input is not accepted. "H": TV input is accepted. | H |
| 16 | – | GND | Ground pin. | |
| 17 | – | | | |
| 18-25 | IN | K8-K1 (P83-80, P13-10) | Key input. | L |
| 26-29 | OUT | T10-7, 6-1 | Timing output. | L |
| 31-36 | | (P70-73, 60-63, 50, 51) | Timing output. | L |
| 37, 38 | – | | | |
| 39 | | VDD | B+ (+5V) | |
| 40-43 | – | | | |
| 44 | IN/OUT | BUS DATA (P30) | Data signal bus input/output pin. | L |

### HD614042-FE22 (IC308) (DISPLAY-1)

| Terminal No. | I/O | Name | Function | Active |
|---|---|---|---|---|
| 1-11 | OUT | SEGMENT B-L (R01-03, 10-13, 20-23) | Segment drive signal output pin. | H |
| 12 | – | | | |
| 13 | – | VDISP (RA1) | (– 36V) | |
| 14 | IN | STOP (R30) | $\mu$-COM Stop input pin. | L |
| 15 | IN | INITIAL (R31) | Initial reset input pin. | L |
| 16, 17 | – | | | |
| 18 | IN | AM STEREO (R50) | "H": FM mode only. "L": FM and AM mode. | H: STR-AV880 |
| 19 | IN | ANT (R51) | "H": "FM ANTENNA A, B" is displayed. "L": "FM ANTENNA A, B" is not displayed. | H |
| 20, 21 | – | | | |
| 22-25 | OUT | SEGMENT M-P (R60-63) | Segment drive output pin. | L |
| 26 | – | Vcc | B+ (+5V) | |
| 27 | IN | | (Not used) FM stop signal input pin. | |
| 28 | – | | | |
| 29 | IN | PROTECTOR (R42) | Protector signal input pin. | L |
| 30 | – | | | |
| 31 | OUT | AM IF (R70) | AM if mode (Not used on this set.) | L |
| 32-34 | – | | | |
| 35 | OUT | MM (R80) | Drive signal output pin for MM mode display. (Not used on this set.) | L |
| 36 | OUT | MC (R81) | Drive signal output pin for MC mode display. (Not used on this set.) | L |
| 37, 38 | – | | | |

### HD614022-FE59 (IC251)

| Terminal No. | I/O | Name | Function | Active |
|---|---|---|---|---|
| 39 | IN | ATT (R90) | "H": ATT" is displayed. "L": "ATT" is not displayed. | L |
| 40 | IN | ACOUSTIC /MEMORY (R91) | "H": "ACOUSTIC/MEMORY" is two displayed. "L": ACOUSTIC/MEMORY is three displayed. | L |
| 41 | IN | J/W (R92) | Destination setting input pin. "H": US, Canada band "L": J band | H |
| 42 | IN | 9k/10k (R93) | AM tuning interval setting input pin. "H": 10kHz interval "L": 9kHz interval | H |
| 43 | IN | RESET | Reset signal input pin. | H |
| 44 | IN | TEST | Test pin. | H |
| 45 | IN | OSC 1 | Clock osc signal input pin. | |
| 46 | IN | OSC 2 | Clock osc signal input pin | |
| 47 | – | GND | Ground | |
| 48 | IN/OUT | I/O DATA (D0) | Data signal bus input/output pin. | L |
| 49 | IN/OUT | I/O CLOCK (D1) | Clock signal bus input/output pin. | L |
| 50 | OUT | VIDEO EDIT (D2) | Drive signal output pin for VIDEO EDIT display. | L |
| 51 | OUT | AUDIO EDIT (D3) | Drive signal output pin for AUDIO EDIT display. | L |
| 52 | OUT | SURROUND (D4) | Drive signal output pin for SURROUND display. | H |
| 53 | OUT | TAPE2 (D5) | Drive signal output pin for TAPE 2 display. | L |
| 54 | – | | | |
| 55-63 | OUT | DIGIT D1-D9 (D7-15) | Digit drive signal output pin. | H |
| 64 | OUT | SEGMENT A (R00) | Segment drive signal output pin. | H |

| Terminal No. | I/O | Name | Function | Active |
|---|---|---|---|---|
| 1 | OUT | FRONT (R01) | Output pin which selects VIDEO 2 front side mode. | H |
| 2 | OUT | REAR (R02) | Output pin which selects VIDEO 2 rear side mode. | H |
| 3 | OUT | TV (R03) | Output pin which selects TV mode. | |
| 4 | OUT | AUDIO EDIT (R10) | Output pin which selects AUDIO EDIT mode. | H |
| 5 | OUT | VIDEO EDIT (R11) | Output pin which selects VIDEO EDIT mode. | H |
| 6 | OUT | SURROUND (R12) | Output pin which selects SURROUND mode. | H |
| 7-10 | – | R13-R22 | | |
| 11 | OUT | ASP LATCH (R23) | LATCH signal output pin for ASP (IC502) | H |
| 12 | – | RA0 | | |
| 13 | – | –15V (RA1) | B– (–15V) | |
| 14, 15 | – | R30, 31 | | |
| 16 | IN | STOP (R32/INT) | $\mu$-COM stop signal input pin. (Interrupt) | L |
| 17 | – | R33 | | |
| 18-25 | – | R50-53, 60-63 | | |
| 26 | – | Vcc | B+ (+5V) | |
| 27 | OUT | ASP/PLL CLOCK (R40/SCK) | CLOCK signal output pin for ASP (IC502) and PLL (IC203) | L |
| 28 | OUT | PLL LATCH (R41/SI) | LATCH signal output pin for PLL (IC203) | L |
| 29 | OUT | ASP/PLL DATA (R42) | Serial data output pin for ASP (IC502) and PLL (IC203). | L |
| 30 | – | R43 | | |
| 31 | OUT | IF SW (R70) | IF select output pin. | H |
| 32 | – | R71 | | |
| 33 | OUT | FM MODE (R72) | FM MODE select output pin. (STEREO or MONO) "L": STEREO "H": MONO | H |

HD614022-FE59 (IC251)

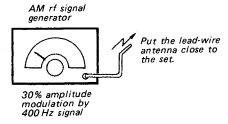
| Terminal No. | I/O | Name | Function | Active |
|---|---|---|---|---|
| 34 | OUT | AM MODE (R73) | Output pin which selects AM MODE (STEREO or MONO) "L": STEREO "H": MONO (Not used) | H |
| 35, 36 | – | R80, 81 | | |
| 37 | OUT | MUTING (R82) | FM/AM muting output pin. | H |
| 38 | – | R83 | | |
| 39 | IN | +/– (R90) | Initialize. (FM IF offset) | |
| 40 | IN | 50k (R91) | Initialize. (FM IF offset) | |
| 41 | IN | MODE (R92) | Initialize. (SET select) | H |
| 42 | – | R93 | | |
| 43 | IN | RESET | Reset signal input pin | H |
| 44 | IN | TEST | TEST pin | H |
| 45 | IN | OSC 1 | Clock osc signal input pin. | |
| 46 | IN | OSC 2 | Clock osc signal input pin. | |
| 47 | – | GND | Ground. | |
| 48 | IN OUT | BUS DATA (D0) | Data signal bus input/ output pin. | L |
| 49 | IN/ OUT | BUS CLOCK (D1) | Clock signal bus input/ output pin. | L |
| 50 | IN | AUTO STOP (D2) | Auto stop signal input pin. (Not used) | L |
| 51 | IN | PROTECT-OR OUT (D3) | Protector signal output pin. | L |
| 52 | OUT | FM STOP (D4) | FM stop signal output pin. (Not used) | L |
| 53 | – | D5 | | |
| 54 | IN | PROTECT-OR IN (D6) | Protector signal input. | L |
| 55, 56 | – | D7, 8 | | |
| 57 | OUT | ANT-A (D9) | Output pin which selects Antenna-A mode. | H |
| 58 | OUT | ANT-B (D10) | Output pin which selects Antenna-B mode. | H |
| 59 | OUT | SPEAKER RELAY (D11) | Speaker relay drive signal output pin. | H |
| 60 | OUT | MM/MC (D12) | Relay drive signal output pin for MM/MC switching. | H |
| 61 | OUT | POWER RELAY (D13) | Power relay drive signal output pin. | H |
| 62 | – | D14 | | |
| 63 | OUT | HI-BLEND (D15) | HI-BLEND | H |
| 64 | OUT | VIDEO1 (R00) | Output pin which selects VIDEO 1 mode. | H |

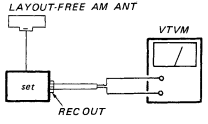




## AM SECTION

Setting:




• Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

### AM IF Alignment

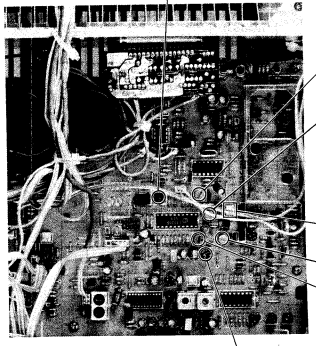
| SG and set frequency | Adjustment part | Reading on VTVM |
|---|---|---|
| 1000 kHz | T211 | maximum |

### AM Tracking Adjustment

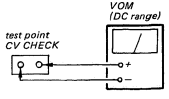
This adjustment should be performed after completing AM Frequency Coverage Adjustment.

| SG and set frequency | Adjustment part | Reading on VTVM |
|---|---|---|
| 600 kHz | T201 | maximum |
| 1,400 kHz | CT201 | |

[MAIN BOARD]




### AM Frequency Coverage Adjustment




| set frequency | Adjustment part | Reading on VOM |
|---|---|---|
| 530 kHz | T202 | 1.8 ±0.1 V |
| 1,610 kHz | CT202 | 22 ±0.2 V |

### AM SIGNAL LEVEL ADJUSTMENT

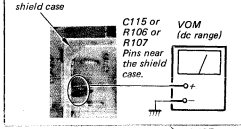
| SG output level | SG and set frequency | Adjustment part | Reading on the signal level indicator of the set |
|---|---|---|---|
| 90 dB/m | 1000 kHz | RT201 | 90 |

FM SECTION

### FM Frequency Coverage Adjustment

Procedure:

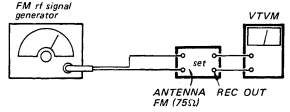
| Set frequency | Adjustment part | Reading on VOM |
|---|---|---|
| 108 MHz | L105 | 21 ±0.2 V |
| 87.5 MHz | Confirmation | 8 ±0.5 V |




### FM Tracking Adjustment

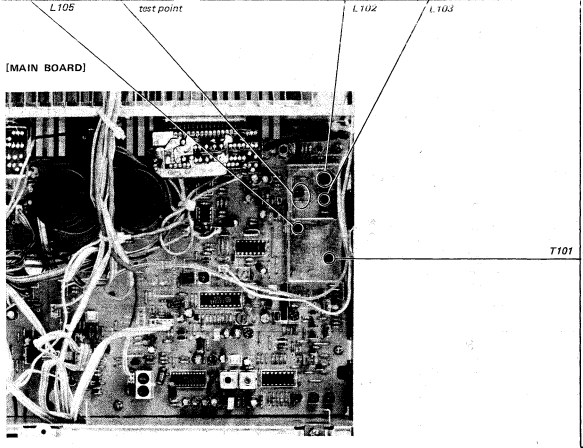
This adjustment should be performed after finishing FM Frequency Coverage Adjustment.

Setting:




*Carrier frequency:* 98 MHz
*Modulation:* 1 kHz, 75 kHz deviation (100%)
*Output level:* less than 3.2 µV (less than 10 dB)

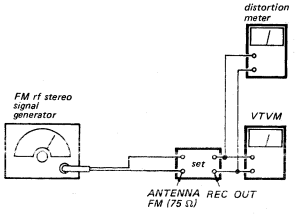
1. Adjust L102, 103 for maximum reading on the VTVM.




[MAIN BOARD]

### FM IF Adjustment

Setting:




Procedure:

1. Set the FM rf stereo signal generator as shown below.

*Carrier frequency:* 98 MHz
*Modulation:* 1 kHz, 75 kHz deviation (100%)
*Output level:* as low as possible
*Mode:* mono

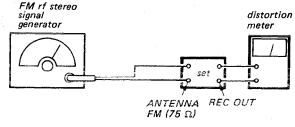
2. Tune the set to 98 MHz.
3. Adjust the core of T101 for a maximum reading on VTVM.
4. Set the FM rf stereo signal generator as shown below.

*Carrier frequency:* 98 MHz
*Output level:* 1 mV (60 dB)
*Modulation*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

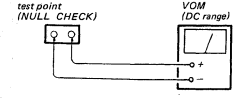
5. Adjust the core of T101 for minimum distortion near the maximum output level of REC OUT.

### FM Discriminator Alignment (NULL and MONO Distortion)

Setting:




*Carrier frequency:* 98 MHz
*Modulation:* 1 kHz, 75 kHz deviation (100%)
*Output level:* 1 mV (60 dB)




Procedure:

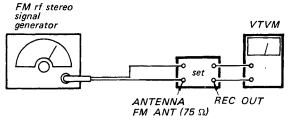
1. Tune the set to 98 MHz.
2. Adjust T102 (primary-side) for 0 V reading on the VOM. . . . . NULL
3. Adjust T103 (secondary-side) for a minimum reading on the distortion meter.
   . . . . . MONO Distortion
4. Repeat the primary-side and secondary-side alignments several times.

**Note:** When replacing the ceramic filter, perform this alignment.

## FM Stereo Separation Adjustment

**Setting:**

FM IF switch: WIDE




*Carrier frequency:* 98 MHz
*Output level:* 1 mV (60 dB)
*Modulation:*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**

Tune the set to 98 MHz.

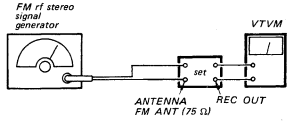
| FM stereo signal generator output channel | VTVM connection | VTVM reading (dB) |
|---|---|---|
| L-CH | L-CH | Ⓐ |
| R-CH | L-CH | Ⓑ Adjust RT151 for minimum reading. |
| R-CH | R-CH | Ⓒ |
| L-CH | R-CH | Ⓓ Adjust RT151 for minimum reading. |

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

## FM AGC Adjustment

**Setting:**

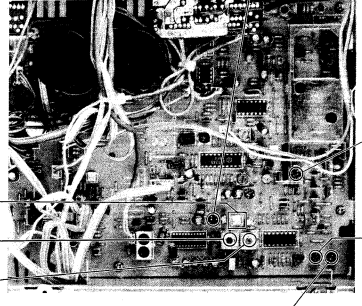



*Carrier frequency:* 98 MHz
*Output level:* 100 mV (80 dB)
*Modulation:*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**

1. Turn the set to 98 MHz.
2. Adjust RT141 so that the AGC voltage goes down.

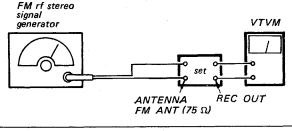
[MAIN BOARD]




## FM Signal Level Adjustment

**Setting:**

FM IF switch: NORMAL
METER SELECT switch: SIGNAL LEVEL



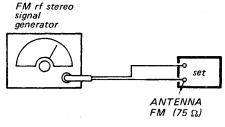

*Carrier frequency:* 98 MHz
*Output level:* 1 mV (60 dB)
*Modulation:*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**

1. Tune the set to 98 MHz.
2. Adjust RT102 so that the signal level indicator is 70.

## FM Auto Stop Level Adjustment

**Setting:**

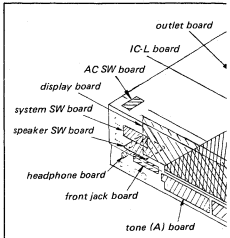



*Carrier frequency:* 98 MHz
*Output level:* 10 µV (20 dB)
*Modulation*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**

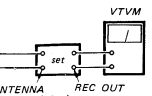
1. Tune the set to 98 MHz.
2. Adjust RT101 so that the STEREO indicater goes on.

## CIRCUIT BOARDS LOCATION



SECTION 2
DIAGRAMS

ustment




8 MHz
mV (60 dB)
3.75 kHz deviation (45%)
3.75 kHz deviation (45%)
5 kHz deviation (10%)
ereo

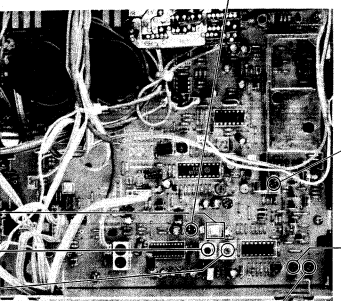
**Procedure:**
Tune the set to 98 MHz.

| FM stereo signal generator output channel | VTVM connection | VTVM reading (dB) |
|---|---|---|
| L-CH | L-CH | Ⓐ |
| R-CH | L-CH | Ⓑ Adjust RT151 for minimum reading. |
| R-CH | R-CH | Ⓒ |
| L-CH | R-CH | Ⓓ Adjust RT151 for minimum reading. |

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

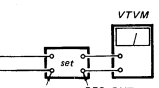
The separations of both channels should be equal.

AIN BOARD]




ent

L
SIGNAL LEVEL



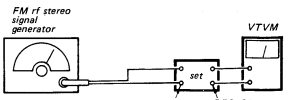

*Carrier frequency:* 98 MHz
*Output level:* 1 mV (60 dB)
*Modulation:*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**
1. Tune the set to 98 MHz.
2. Adjust RT102 so that the signal level indicator is 70.



**FM AGC Adjustment**

**Setting:**




*Carrier frequency:* 98 MHz
*Output level:* 100 mV (80 dB)
*Modulation:*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

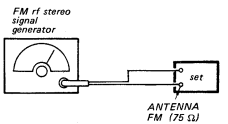
**Procedure:**
1. Turn the set to 98 MHz.
2. Adjust RT141 so that the AGC voltage goes down.

RT141

RT101

**FM Auto Stop Level Adjustment**

**Setting:**

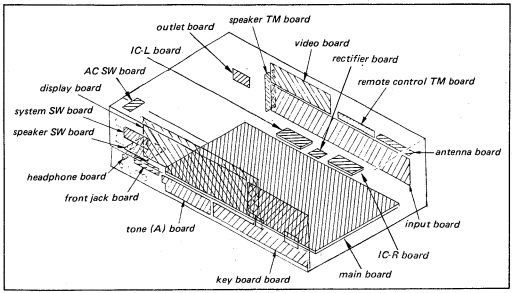



*Carrier frequency:* 98 MHz
*Output level:* 10 μV (20 dB)
*Modulation*
*Audio 1 kHz:* 33.75 kHz deviation (45%)
*Sub channel 38 kHz:* 33.75 kHz deviation (45%)
*Pilot signal 19 kHz:* 7.5 kHz deviation (10%)
*Mode:* stereo

**Procedure:**
1. Tune the set to 98 MHz.
2. Adjust RT101 so that the STEREO indicater goes on.



CIRCUIT BOARDS LOCATION

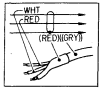


## 2-1. MAIN SECTION MOUNTING DIAGRAM

- See page 50 for Tuner Section Schematic Diagram.
- See page 33 for Circuit Boards Location.
- See page 53 for Semiconductor Lead Layouts.

**Note:**

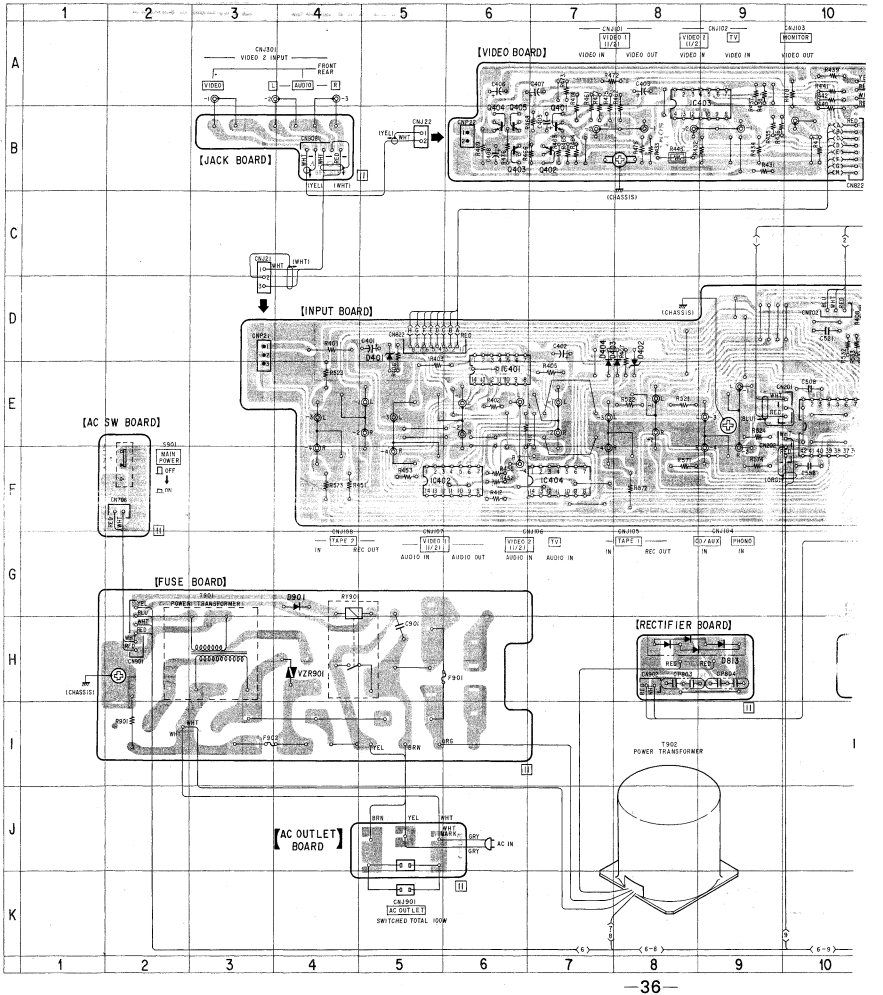
- Color code or sleeving over the end of the jacket.

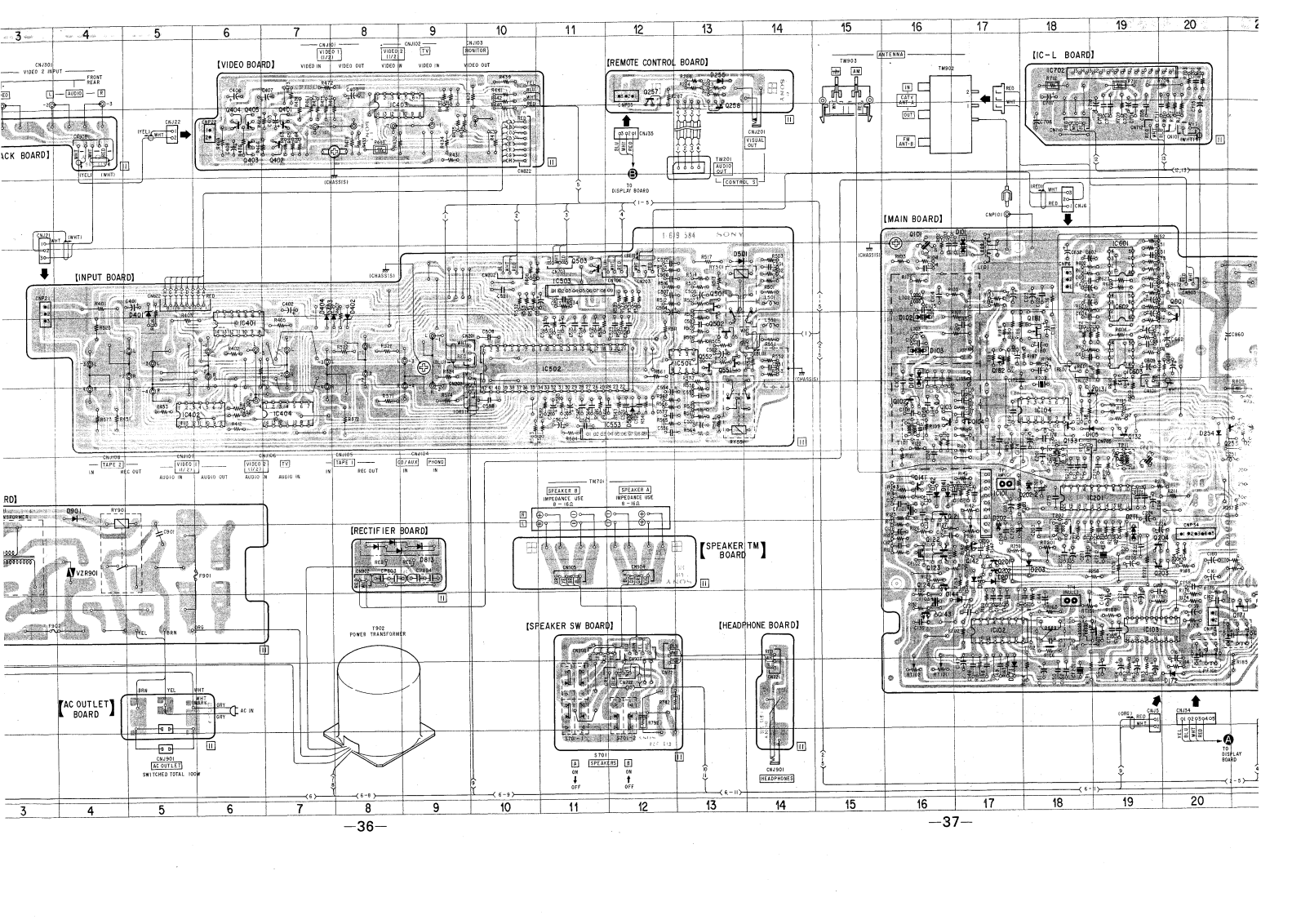


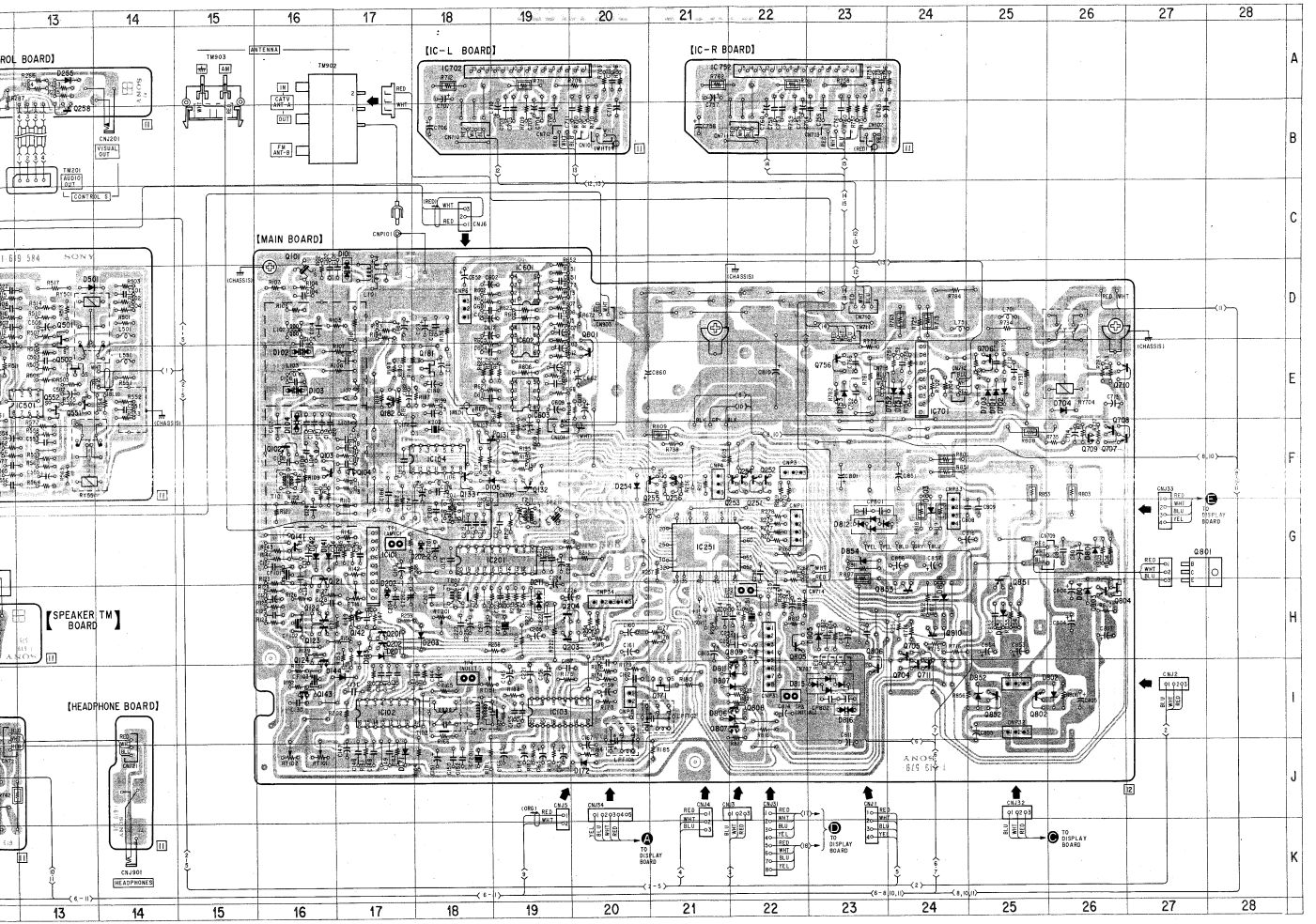

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- [·] : indicates side identified with part number.

### ● SEMICONDUCTOR LOCATION

| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D101 | C-17 | Q101 | D-16 |
| D102 | E-16 | Q102 | F-16 |
| D103 | E-16 | Q103 | F-16 |
| D104 | R-16 | Q104 | F-17 |
| D105 | F-19 | Q121 | G-16 |
| D141 | G-16 | Q122 | H-16 |
| D142 | G-16 | Q123 | H-16 |
| D143 | H-17 | Q124 | H-16 |
| D144 | I-17 | Q131 | F-19 |
| D171 | J-17 | Q132 | F-19 |
| D172 | J-20 | Q133 | F-18 |
| D201 | H-17 | Q141 | G-16 |
| D202-1 | H-17 | Q142 | H-17 |
| D202-2 | G-18 | Q143 | I-16 |
| D203 | H-18 | Q171 | I-21 |
| D211 | H-19 | Q181 | E-18 |
| D254 | F-20 | Q182 | E-17 |
| D255 | A-13 | Q201 | H-17 |
| D401 | D-5 | Q202 | H-17 |
| D402 | D-8 | Q203 | H-20 |
| D403 | D-7 | Q204 | H-20 |
| D404 | D-7 | Q251 | F-22 |
| D501 | D-13 | Q252 | F-22 |
| D502 | F-12 | Q253 | F-22 |
| D701 | E-25 | Q254 | F-22 |
| D702 | E-25 | Q255 | F-21 |
| D703 | E-25 | Q256 | F-21 |
| D704 | E-26 | Q257 | A-12 |
| D751 | E-24 | Q258 | A-13 |
| D752 | E-24 | Q401 | B-7 |
| D753 | E-25 | Q402 | B-7 |
| D801 | G-26 | Q403 | B-6 |
| D802 | I-26 | Q404 | B-6 |
| D803 | G-24 | Q405 | B-6 |
| D804 | H-26 | Q501 | D-13 |
| D805 | H-23 | Q502 | E-13 |
| D806 | I-22 | Q503 | D-11 |
| D807 | I-22 | Q551 | E-13 |
| D808 | H-24 | Q552 | E-13 |
| D811 | I-22 | Q601 | D-20 |
| D812 | G-23 | Q704 | I-24 |
| D813 | H-9 | Q705 | H-24 |
| D815 | I-23 | Q706 | E-25 |
| D816 | I-23 | Q707 | F-26 |
| D851 | H-25 | Q708 | F-26 |
| D852 | I-25 | Q709 | F-26 |
| D854 | G-23 | Q710 | E-26 |
| D901 | G-4 | Q711 | I-24 |
| | | Q756 | E-23 |
| IC101 | G-17 | Q801 | G-27 |
| IC102 | I-17 | Q802 | I-25 |
| IC103 | I-19 | Q803 | H-26 |
| IC104 | F-18 | Q804 | H-26 |
| IC201 | G-19 | Q805 | H-22 |
| IC251 | G-21 | Q806 | H-23 |
| IC401 | E-6 | Q807 | I-22 |
| IC402 | F-6 | Q808 | I-22 |
| IC403 | A-8 | Q809 | H-22 |
| IC404 | F-7 | Q810 | H-24 |
| IC501 | E-13 | Q851 | H-25 |
| IC502 | E-11 | Q852 | I-25 |
| IC503 | D-11 | Q853 | H-24 |
| IC553 | F-12 | | |
| IC601 | D-19 | | |
| IC602 | D-19 | | |
| IC603 | E-19 | | |
| IC701 | E-24 | | |
| IC702 | A-18 | | |
| IC752 | A-22 | | |




【VIDEO BOARD】
【REMOTE CONTROL BOARD】
【IC-L BOARD】
【MAIN BOARD】
【INPUT BOARD】
【RECTIFIER BOARD】
【SPEAKER TM BOARD】
【SPEAKER SW BOARD】
【HEADPHONE BOARD】
【AC OUTLET BOARD】
POWER TRANSFORMER
TO DISPLAY BOARD
ANTENNA
SONY


[IC-L BOARD]
[IC-R BOARD]
[MAIN BOARD]
[SPEAKER TM BOARD]
[HEADPHONE BOARD]
ANTENNA
TM903
TM901
TM201
CN2201
VISUAL OUT
AUDIO OUT
CONTROL S
CNP101
CNJ6
CNJ15
CNJ54
CNJ4
CNJ3
CNJ2
CNJ32
CNJ33
CNJ901
HEADPHONES
TO DISPLAY BOARD
(CHASSIS)
SONY
A
B
C
D
E
F
G
H
I
J
K
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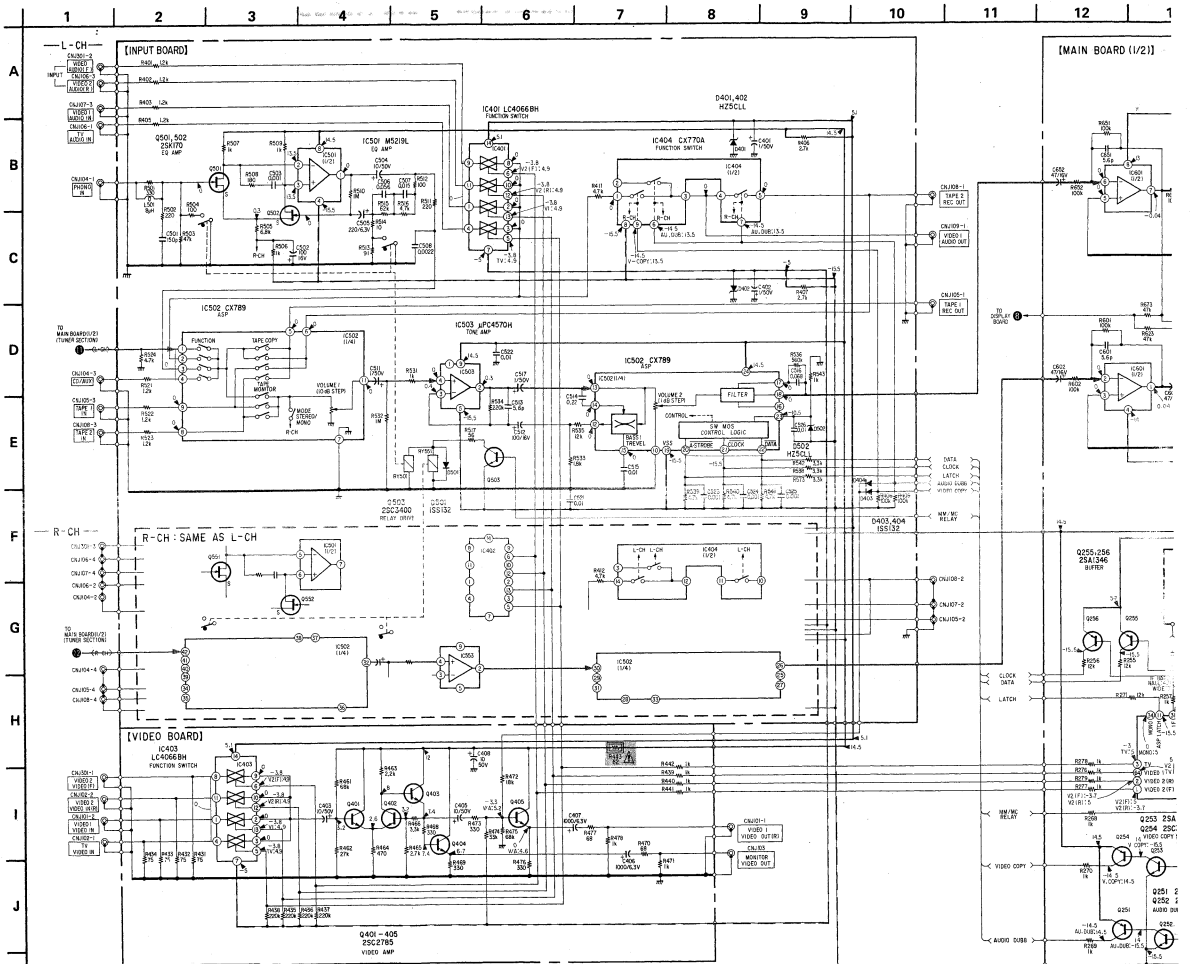
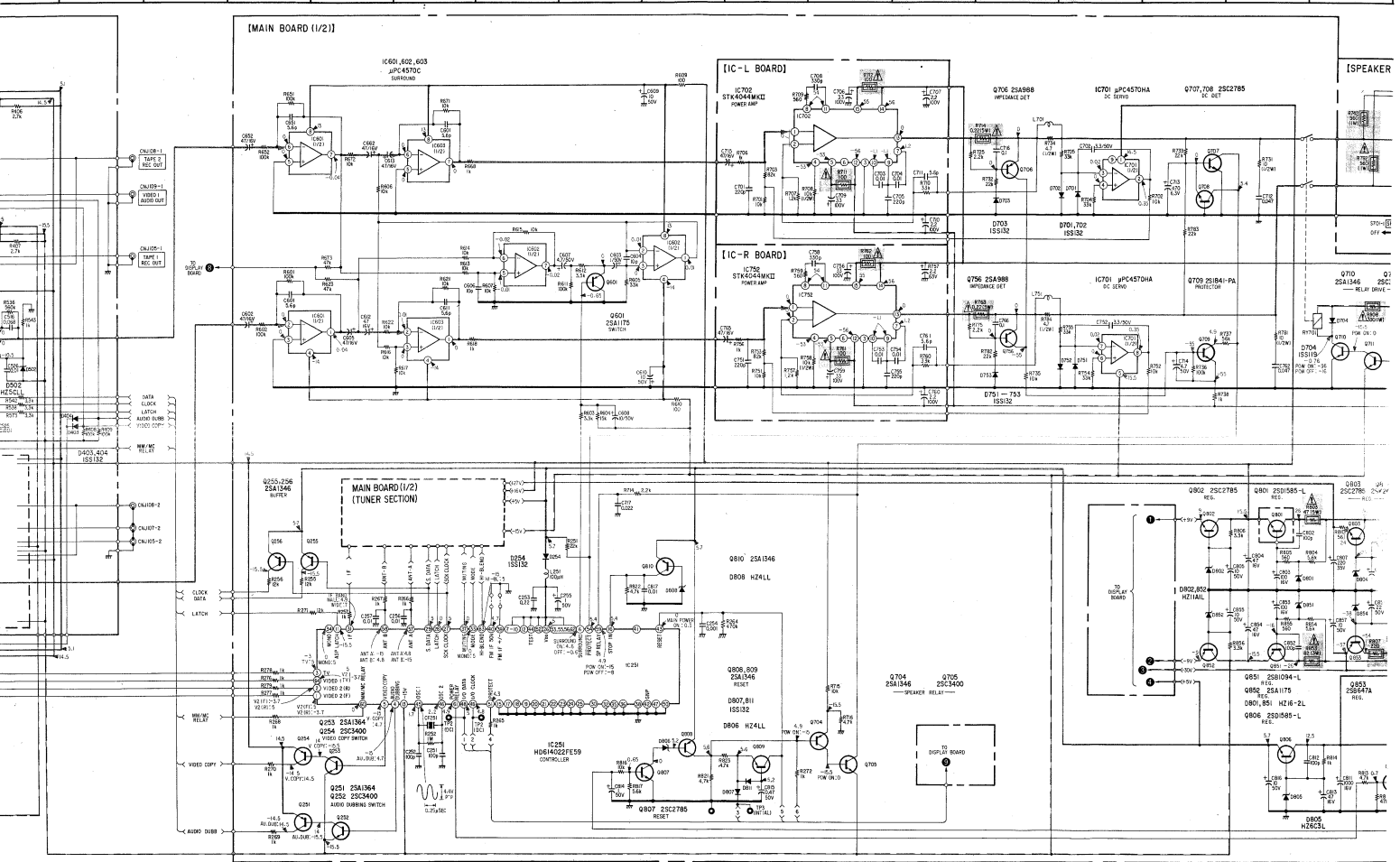
28

## 2-2. MAIN SECTION SCHEMATIC DIAGRAM

- See page 50 for Tuner Section Schematic Diagram.
- See page 49 for notes.




9
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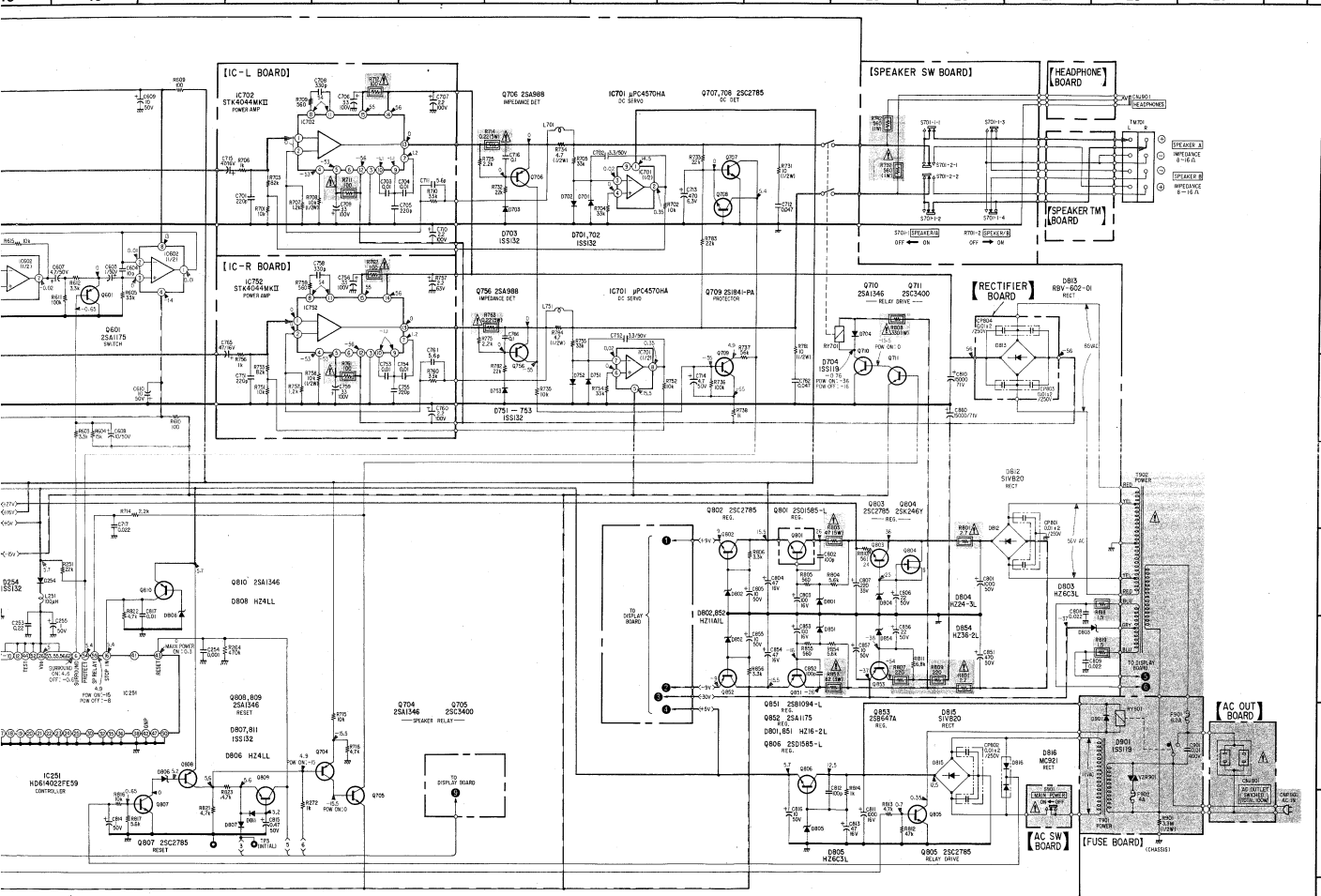
22
23
24
25
[MAIN BOARD (1/2)]
IC601, 602, 603
μPC4570C
SURROUND
[IC-L BOARD]
IC702
STK4044MKII
POWER AMP
Q706 2SA968
IMPEDANCE DET
IC701 μPC4570HA
DC SERVO
Q707, 708 2SC2785
DC DET
[IC-R BOARD]
IC750
STK4044MKII
POWER AMP
Q756 2SA968
IMPEDANCE DET
IC701 μPC4570HA
DC SERVO
Q709 2SI84I-PA
PROTECTOR
[SPEAKER
Q710 2SA1346
RELAY DRIVE
D704 ISS119
Q601 2SA1175
SWITCH
D703 ISS132
D701, 702 ISS132
D751 – 753 ISS132
CNJ08-1
TAPE 2 REC OUT
CNJ09-1
VIDEO 1 AUDIO OUT
CNJ05-1
TAPE 1 REC OUT
30 DISPLAY BOARD
D502 HZ5CL
D403, 404 ISS132
MM/MC RELAY
CNJ08-2
CNJ07-2
CNJ05-2
DATA
CLOCK
LATCH
AUDIO DUBB
VIDEO COPY
MAIN BOARD (1/2)
(TUNER SECTION)
Q255, 256 2SA1546
BUFFER
D254 ISS132
Q810 2SA1346
D808 HZ4LL
Q806, 809 2SA1346
RESET
D807, 811 ISS132
D806 HZ4LL
Q704 2SA1346
SPEAKER RELAY
Q705 2SC3400
TO DISPLAY BOARD
IC251
HD614022FE59
CONTROLLER
Q253 2SA1364
Q254 2SC3400
VIDEO COPY SWITCH
Q251 2SA1364
Q252 2SC3400
AUDIO DUBBING SWITCH
Q807 2SC2785
RESET
Q802 2SC2785
Q801 2SD1585-L
Q803 2SC2785
D802, 852 HZ12AIL
Q851 2SB1094-L
Q852 2SA1175
D801, 851 HZ16-2L
Q806 2SD1585-L
Q853 2SB647A
D805 HZ6C3L
30 DISPLAY BOARD

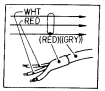

[IC-L BOARD]
[IC-R BOARD]
[SPEAKER SW BOARD]
[HEADPHONE BOARD]
[SPEAKER TM BOARD]
[RECTIFIER BOARD]
[AC OUT BOARD]
[AC SW BOARD]
[FUSE BOARD]
IC702 STK4044MKII POWER AMP
IC752 STK4044MKII POWER AMP
IC701 μPC4570HA DC SERVO
Q706 2SA988 IMPEDANCE DET
Q707,708 2SC2785 DC DET
Q756 2SA988 IMPEDANCE DET
Q709 2SI84I-PA PROTECTOR
Q710 2SA1346 RELAY DRIVE
Q711 2SC3400 RELAY DRIVE
Q601 2SA1175 SWITCH
Q810 2SA1346
D808 HZ4LL
Q809,809 2SA1346 RESET
D807,811 1SS132
D806 HZ4LL
Q807 2SC2785 RESET
Q704 2SA1346 SPEAKER RELAY
Q705 2SC3400 SPEAKER RELAY
IC251 HD614022FE59 CONTROLLER
Q802 2SC2785 REG.
Q801 2SD1585-L REG.
Q803 2SC2785 REG.
Q804 2SK246Y REG.
Q852 2SA1175 REG.
Q851 2SB1094-L REG.
Q801,851 HZ16-2L REG.
Q806 2SD1585-L REG.
Q853 2SB647A REG.
Q805 2SC2785 RELAY DRIVE
D802,852 HZ11A1L
D804 HZ24-3L
D854 HZ36-2L
D815 SIVB20 RECT
D816 MC921 RECT
D813 RBV-602-01 RECT
D803 HZ6C3L
D805 HZ6C3L
D254 1SS132
D703 1SS132
D704 1SS119
D751 — 753 1SS132
D901 1SS119
IC901 TMDF
IC902 TMDF
IC903 TMDF
IC904 TMDF
IC905 TMDF
IC906 TMDF
IC907 TMDF
IC908 TMDF
IC909 TMDF
IC910 TMDF
IC911 TMDF
IC912 TMDF
IC913 TMDF
IC914 TMDF
IC915 TMDF
IC916 TMDF
IC917 TMDF
IC918 TMDF
IC919 TMDF
IC920 TMDF

STR-AV880 STR-AV880

## 2-3. DISPLAY SECTION MOUNTING AND SCHEMATIC DIAGRAMS

**Note:**

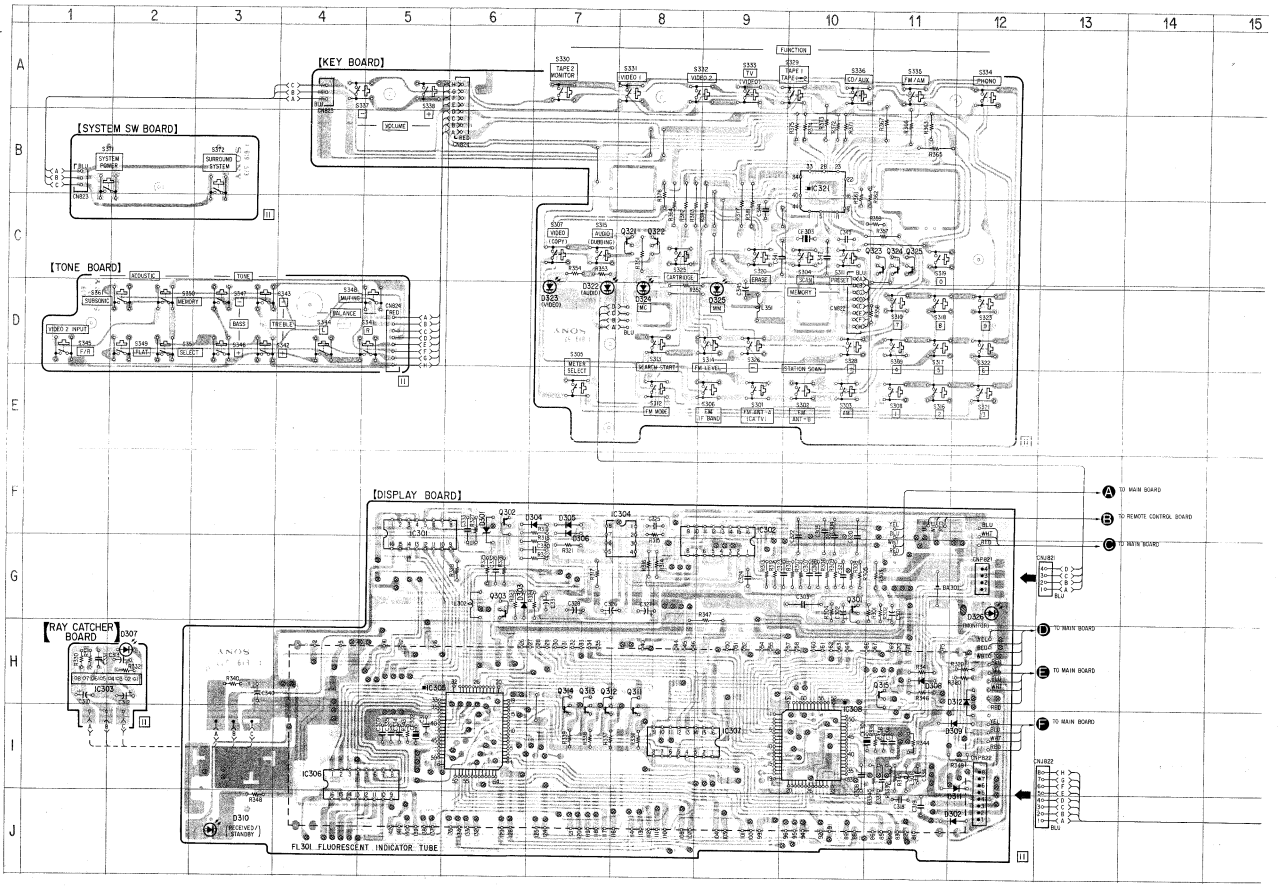
- Color code or sleeving over the end of the jacket.

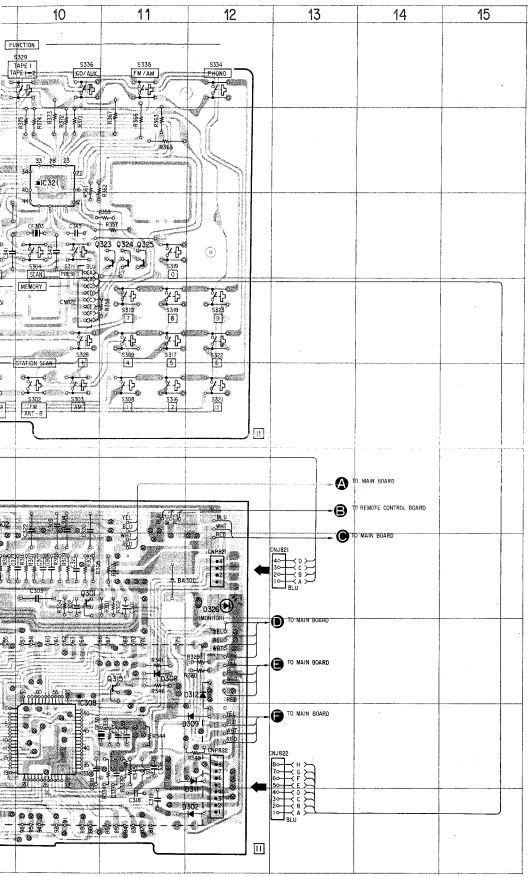



- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- ⊡ : indicates side identified with part number.

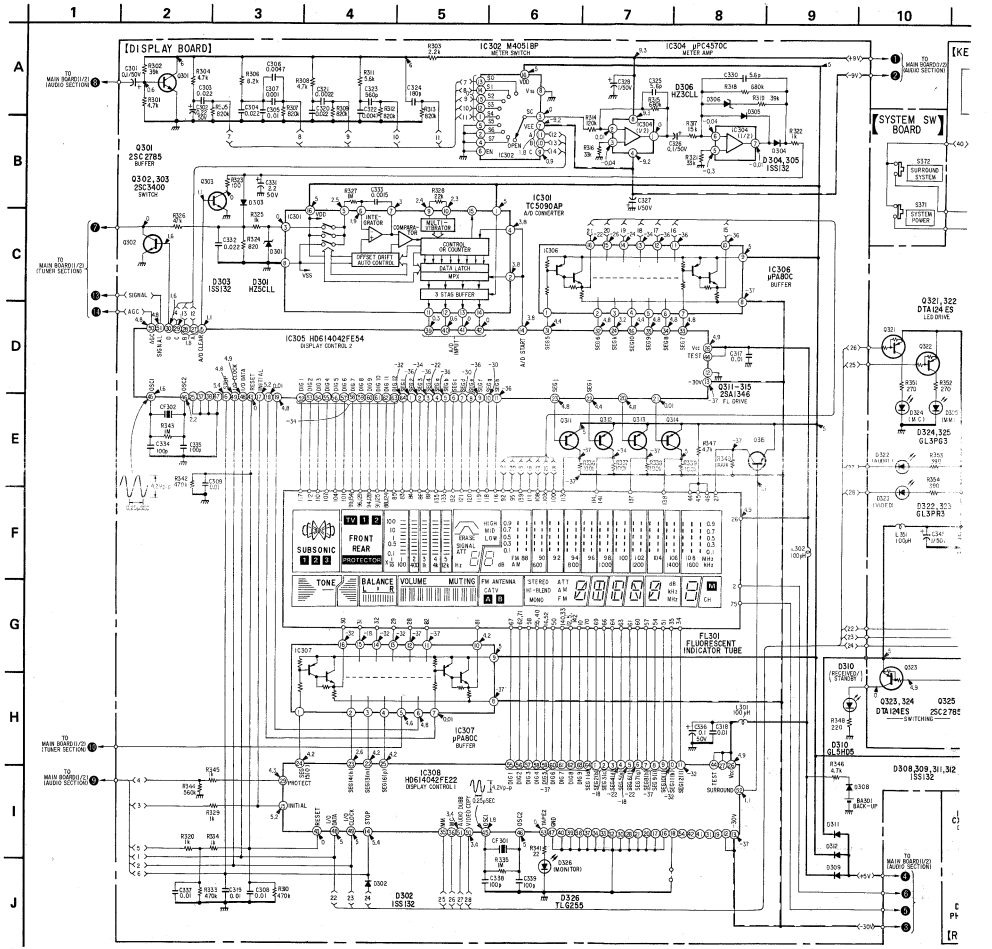
- **SEMICONDUCTOR LOCATION**

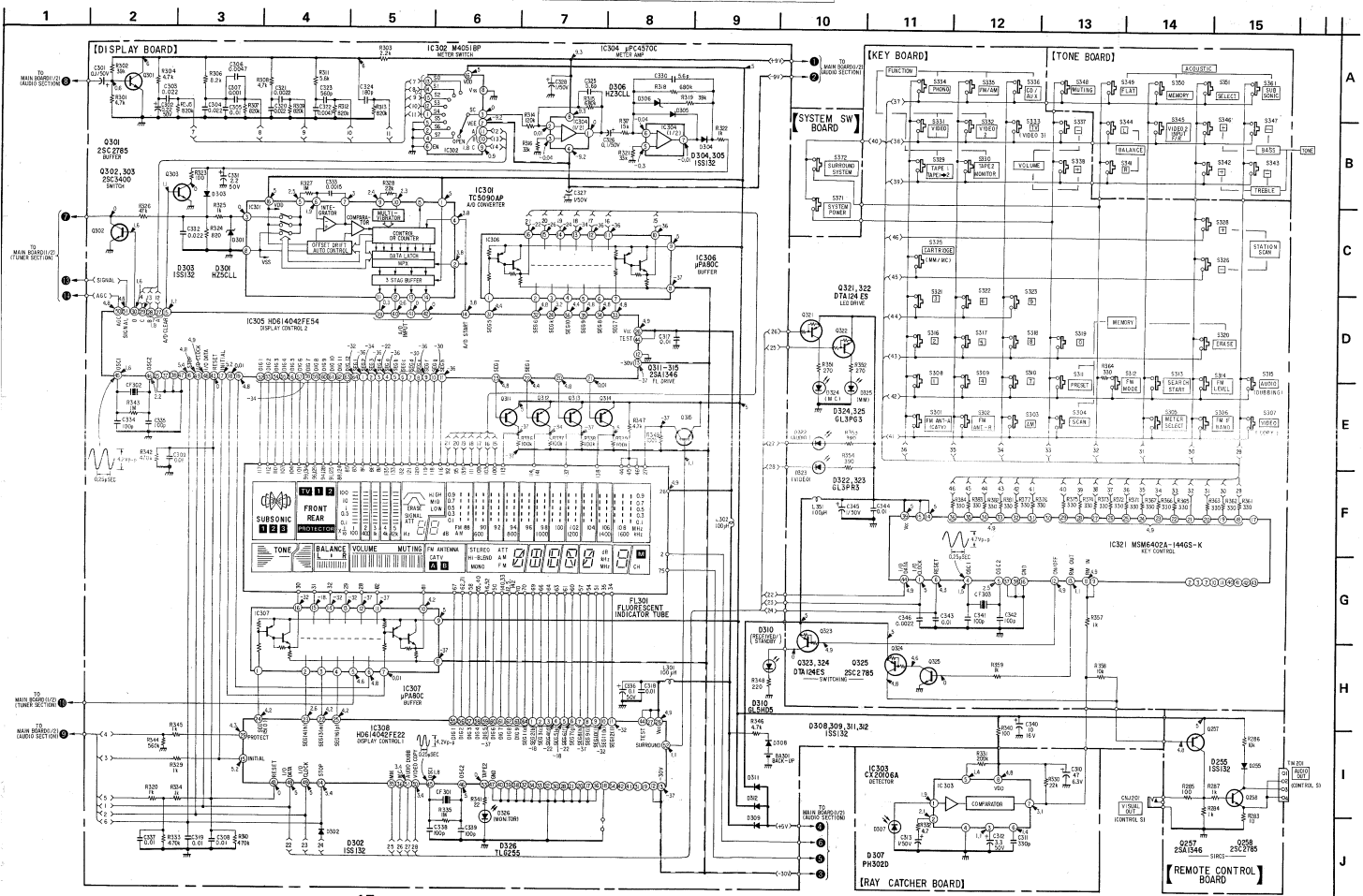
| Ref. No. | Location |
|---|---|
| D301 | F-6 |
| D302 | I-12 |
| D303 | G-6 |
| D304 | F-7 |
| D305 | F-7 |
| D306 | F-7 |
| D307 | H-2 |
| D308 | H-11 |
| D309 | I-12 |
| D310 | J-3 |
| D311 | I-12 |
| D312 | H-12 |
| D322 | D-7 |
| D323 | D-7 |
| D324 | D-8 |
| D325 | D-9 |
| D326 | G-12 |
| IC201 | F-5 |
| IC302 | F-9 |
| IC303 | H-1 |
| IC304 | F-8 |
| IC305 | I-6 |
| IC306 | I-4 |
| IC307 | I-9 |
| IC308 | I-10 |
| IC321 | B-10 |
| Q301 | G-10 |
| Q302 | F-6 |
| Q303 | G-6 |
| Q311 | H-8 |
| Q312 | H-7 |
| Q313 | H-7 |
| Q314 | H-7 |
| Q315 | H-11 |
| Q321 | C-8 |
| Q322 | C-8 |
| Q323 | C-11 |
| Q324 | C-11 |
| Q325 | C-11 |




10
11
12
13
14
15
FUNCTION
TAPE I
TAPE II
CD/LD
TV/SAT
PHONO
IC321
MEMORY
STATION SCAN
TUNING
TO MAIN BOARD
TO REMOTE CONTROL BOARD
TO MAIN BOARD
TO MAIN BOARD
TO MAIN BOARD
TO MAIN BOARD




[DISPLAY BOARD]
IC302 M4051BP
METER SWITCH
IC304 μPC4570C
METER AMP
D306 HZ5CLL
D304,305 1SS132
0301 2SC2785 BUFFER
0302,303 2SC3400 SWITCH
IC301 TC5090AP A/D CONVERTER
D303 1SS132
D301 HZ5CLL
IC306 μPA80C BUFFER
IC305 HD614042FE54 DISPLAY CONTROL 2
0311-315 2SA1346 FL DRIVE
FRONT REAR PROTECTOR
SUBSONIC
TONE
BALANCE
VOLUME
MUTING
FM ANTENNA
FL301 FLUORESCENT INDICATOR TUBE
IC307 μPA80C BUFFER
IC308 HD614042FE22 DISPLAY CONTROL 1
D302 1SS132
D326 TLG295
0321,322 DTA124ES LED DRIVE
0324,325 GL5P53
0323,324 DTA114ES
0325 2SC2785
D310 GL5H05
D308,309,311,312 1SS132
[SYSTEM SW BOARD]
SURROUND SYSTEM
SYSTEM POWER
TO MAIN BOARD(1/2) (AUDIO SECTION)
TO MAIN BOARD(1/2) (TUNER SECTION)
SIGNAL
AGC


[DISPLAY BOARD]
[KEY BOARD]
[TONE BOARD]
[SYSTEM SW BOARD]
[RAY CATCHER BOARD]
[REMOTE CONTROL BOARD]
IC302 M405IBP METER SWITCH
IC304 μPC4570C METER AMP
IC301 TC5090AP A/D CONVERTER
IC305 HD614042FE54 DISPLAY CONTROL 2
IC306 μPA80C BUFFER
IC307 μPA80C BUFFER
IC308 HD614042FE22 DISPLAY CONTROL 1
IC321 MSM6402A-144GS-K KEY CONTROL
IC303 CX20106A DETECTOR
FL301 FLUORESCENT INDICATOR TUBE
Q301 2SC2785 BUFFER
Q302, 303 2SC3400 SWITCH
Q321, 322 DTA124ES LED DRIVE
Q324, 325 GL3PG3
Q322, 323 GL5PR3
Q323, 324 DTA124ES SWITCHING
Q325 2SC2785
Q311-315 2SA1546 FL DRIVE
Q257 2SA1546
Q258 2SC2785
D301 HZ5CLL
D303 1SS132
D302 1SS132
D306 HZ5CLL
D304, 305 1SS132
D308, 309, 311, 312 1SS132
D326 TLG255
D255 1SS132
D307 PH302D
D310 GL5HD5
FRONT REAR
SUBSONIC
PROTECTOR
TONE
BALANCE
VOLUME
MUTING
FM ANTENNA CATV
STEREO HI-BLEND MONO
ATT AM FM
TO MAIN BOARD(1/2) (RADIO SECTION)
TO MAIN BOARD(1/2) (TUNER SECTION)
TO MAIN BOARD(1/2) (AUDIO SECTION)
TO MAIN BOARD(1/2) (TUNER SECTION)
TO MAIN BOARD(1/2) (AUDIO SECTION)
TO MAIN BOARD(1/2) (TUNER SECTION)
TO MAIN BOARD(1/2) (AUDIO SECTION)
FUNCTION
ACOUSTIC
BASS
TREBLE
TONE
BALANCE
VOLUME
MEMORY
PRESET
SCAN
SEARCH START
FM MODE
FM LEVEL
AUDIO MUTING
TAPE TAPE-2
VIDEO 1/2
VIDEO 3
CD / AUX
PHONO
PM/AM
SURROUND SYSTEM
SYSTEM POWER
CARTRIDGE MM / MC
STATION SCAN
ERASE
SELECT
SUB SONIC
P.EAT
SURROUND MONITOR
TAPE / VIDEO
TAPE MONITOR
FM ANT-A / CATV
FM ANT-B
AM
TAPE / BOARD
VIDEO
DETECT SELECT
SIRCS
REMOTE CONTROL SI
CN302 VISUAL OUT
CN301 AUDIO OUT
CONTROL SI
SIGNAL
AGC
SUBSONIC
FRONT
REAR
PROTECTOR
TONE
BALANCE
VOLUME
MUTING
FM ANTENNA CATV
STEREO HI-BLEND MONO
ATT AM FM
MHz
CH

**Note on Schematic Diagram:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⟿ : FM signal path.
- △ : internal component.
- ⚠ : nonflammable resistor.
- ▬ : B+ bus.
- ▬ : B− bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  ( ):
- Waveforms are taken to ground in mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

**Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

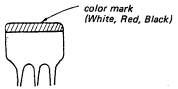
**Note on Ceramic Filter (CF101, 102, and 103)**

**Replacement and Solder Jumper Connection.**

FM IF circuit employs three ranks of ceramic filter (CF101, 102, and 103) which have different center frequency. CF101, 102, and 103 should be used the ceramic filters of same rank. The solder jumper connection will be different depending on the rank of ceramic filter. (The solder jumper connection is necessary to match the center frequency of the ceramic filter used with FM intermediate frequency.)

| Rank of ceramic filter (MHz) | Solder jumper connection | | FM intermediate frequency (MHz) |
|---|---|---|---|
| | (+) | (50k) | |
| White (10.75) | X | X | 10.75 |
| Red (10.7) | O | O | 10.7 |
| Black (10.65) | O | X | 10.65 |

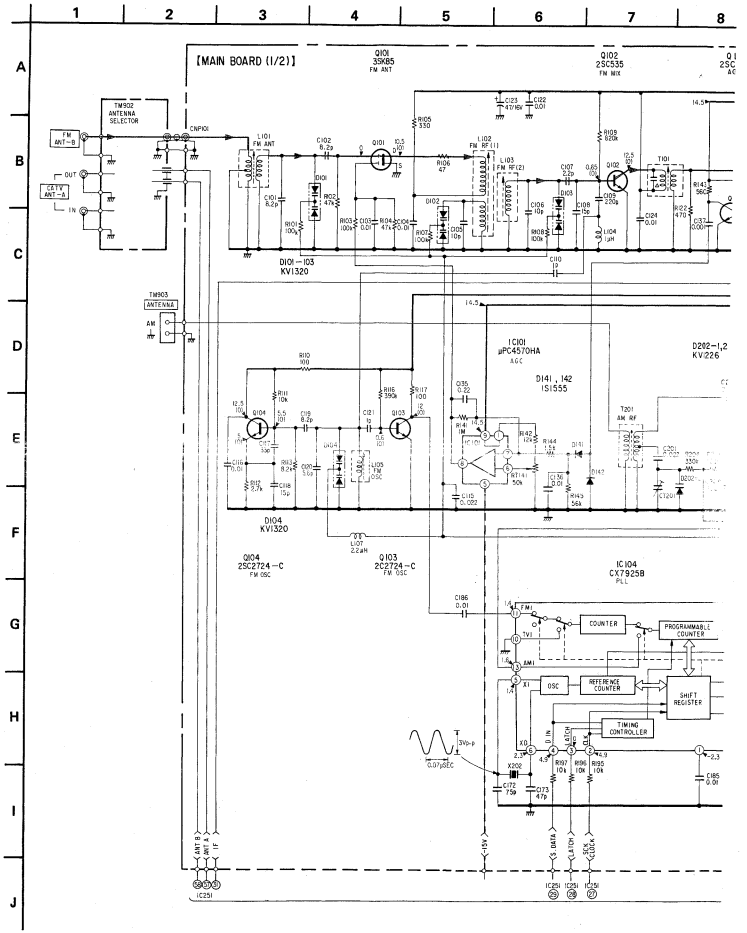
connected: O
not connected: X

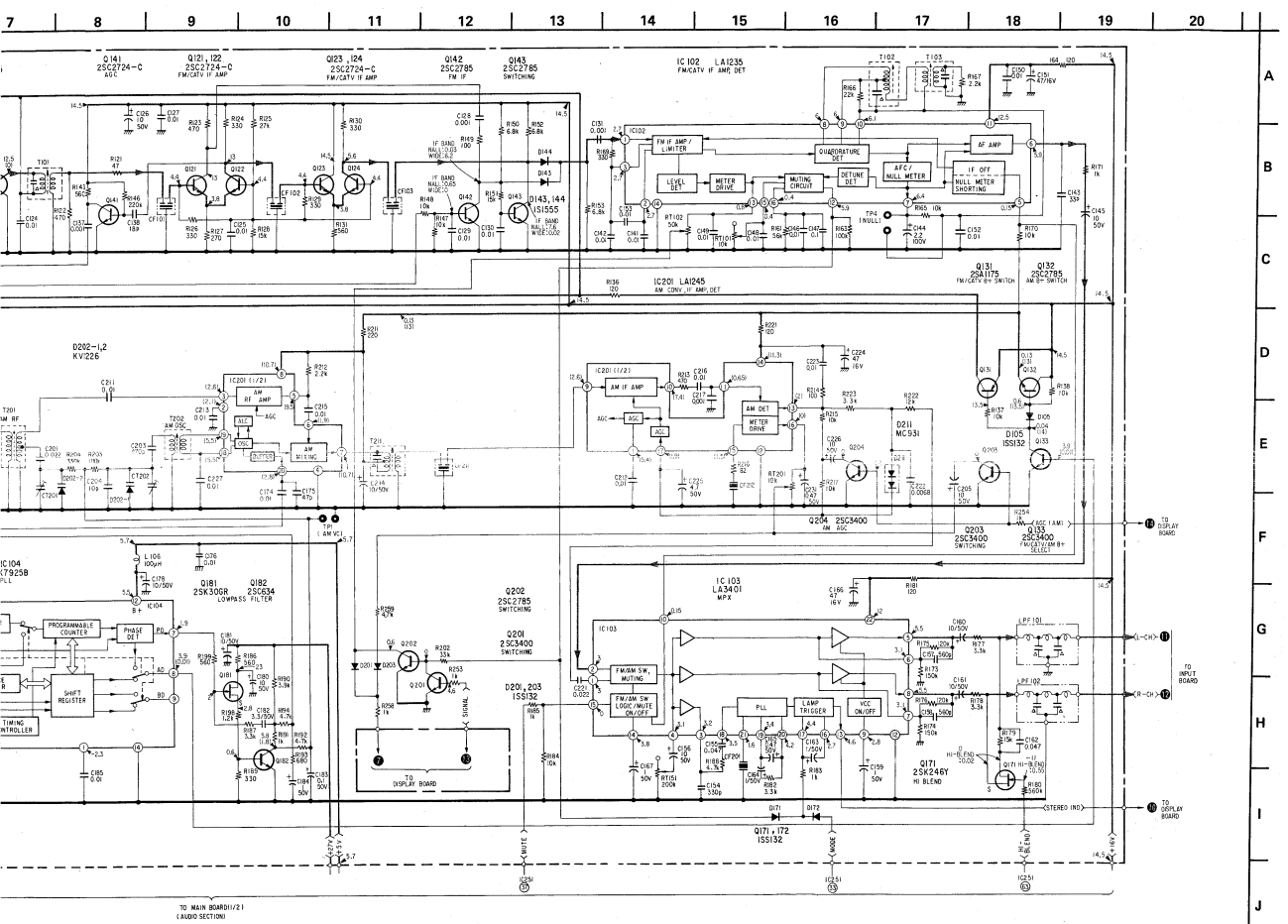



- Switch

| Ref. NO. | Switch | Position |
|---|---|---|
| S301 | FM ANT-A | ON |
| S302 | FM ANT-B | OFF |
| S303 | AM | OFF |
| S304 | SCAN | OFF |
| S305 | METER SELECT | power output spectrum |
| S306 | IF BAND | NORMAL |
| S307 | VIDEO | OFF |
| S308 | 1 | OFF |
| S309 | 4 | OFF |
| S310 | 7 | OFF |
| S311 | PRESET | OFF |
| S312 | FM MODE | STEREO |
| S313 | SEARCH START | OFF |
| S314 | FM LEVEL | OFF |
| S315 | AUDIO | OFF |
| S316 | 2 | OFF |
| S317 | 5 | OFF |
| S318 | 8 | OFF |
| S319 | 0 | OFF |
| S320 | ERASE | OFF |
| S321 | 3 | OFF |
| S322 | 6 | OFF |
| S323 | 9 | OFF |
| S325 | CARTRIDGE | MC |
| S326 | STATION SCAN (−) | − |
| S328 | STATION SCAN (+) | − |
| S329 | TAPE 1 | OFF |
| S330 | TAPE 2 | OFF |
| S331 | VIDEO 1 | OFF |
| S332 | VIDEO 2 | OFF |
| S333 | TV | OFF |
| S334 | PHONO | OFF |
| S335 | FM/AM | FM |
| S336 | CD/AUX | OFF |
| S337 | VOLUME (−) | − |
| S338 | VOLUME (+) | − |
| S341 | BALANCE (R) | OFF |
| S342 | TREBLE (+) | − |
| S343 | TREBLE (−) | − |
| S344 | BALANCE (L) | OFF |
| S345 | VIDEO 2 F/R | FRONT |
| S346 | BASS (+) | − |
| S347 | BASS (−) | − |
| S348 | MUTE | OFF |
| S349 | FLAT | OFF |
| S350 | MEMORY | OFF |
| S351 | ACOUSTIC | OFF |
| S361 | SUBSONIC | OFF |
| S371 | SYSTEM POWER | OFF |
| S372 | SURROUND | OFF |
| S701-1 | SPEAKERS-A | ON |
| S701-2 | SPEAKERS-B | OFF |
| S901 | POWER | OFF |

## 2-4. TUNER SECTION SCHEMATIC DIAGRAM

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16
17
18
19
20
A
B
C
D
E
F
G
H
I
J
Q141 2SC2724-C AGC
Q121, 122 2SC2724-C FM/CATV IF AMP
Q123, 124 2SC2724-C FM/CATV IF AMP
Q142 2SC2785 FM IF
Q143 2SC2785 SWITCHING
IC102 LA1235 FM/CATV IF AMP, DET
FM IF AMP / LIMITER
QUADRATURE DET
AF AMP
LEVEL DET
METER DRIVE
MUTING CIRCUIT
DETUNE DET
AFC / MULL METER
IF OFF MULL METER SHORTING
IC201 LA1245 AM CONV, IF AMP, DET
Q131 2SA1175 FM/CATV B/W SWITCH
Q132 2SC2785 AM B/W SWITCH
D202-1,2 KV226
IC201 (1/2) AM RF AMP
IC201 (1/2) AM IF AMP
AM DET METER DRIVE
D211 MC931
D105 1SS132
Q204 2SC3400 AM AGC
Q203 2SC3400 SWITCHING
Q133 2SC3400 FM/EXT/AM B+ SELECT
TO DISPLAY BOARD
IC104 K7925B PLL
PROGRAMMABLE COUNTER
PHASE DET
SHIFT REGISTER
TIMING CONTROLLER
Q181 2SK30GR LOWPASS FILTER
Q182 2SC634
Q202 2SC2785 SWITCHING
Q201 2SC3400 SWITCHING
D201, 203 1SS132
IC103 LA3401 MPX
FM/AM SW, MUTING
FM/AM SW LOGIC/MUTE ON/OFF
PLL
LAMP TRIGGER
VCC ON/OFF
LPF101
LPF102
(L-CH)
(R-CH)
TO INPUT BOARD
Q171 2SK246Y HI BLEND
Q171, 172 1SS132
STEREO IND
TO DISPLAY BOARD
TO MAIN BOARD(1/2) (AUDIO SECTION)
MUTE
KNOB
HI BLEND
IC251

## • Semiconductor Lead Layouts

CX29196A

CX770A
CX7925B
LC4066BH

CX789

CX857L

CXA1017M
μPD6125G-502

HD614022FE59
HD614042FE22
HD614042FE54

LA1235

LA1245
LA1247

LA3401

M5219P
μPC4570C

MSM6402A-144GS-K

STK4042XI
STK4044MkII

TC4051BP
TC4052BP
TC4059AP
μPA80C

μPC4570HA

2SA1175
2SC2785

2SA1346
2SC3400
2SK241-GR
DTA124ES
DTC124ES

2SA985P
2SD1585-L

2SA988-F
2SB647-A

2SB1094-L

2SC1841-PA
2SC535

2SC2724C

2SC634

2SK170

2SK246Y
2SK30A-GR3

2SK85

1S1555
HZ3CLL
HZ4ALL
HZ5CLL
HZ6C3L
HZ36-2L
HZS6C3L
HZS11ALL
HZS16-2L

1SS119
1SS132

KV1226

KV1320

MC921

MC931

PH302D

RBV-602-01

SIVB-20

GL3PG3
GL3PR3

GL-5HD8

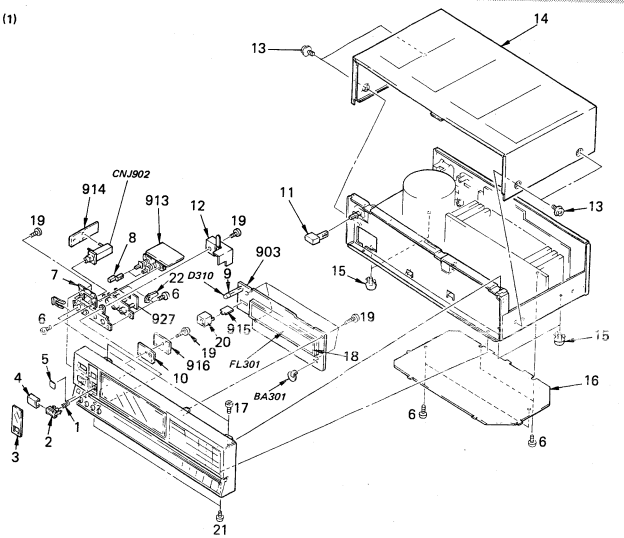
TLG255

# SECTION 3
# EXPLODED VIEWS AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | 3-563-067-11 | SPRING, COMPRESSION | |
| 2 | 4-906-879-01 | JOINT (SURROUND) | |
| 3 | 4-906-875-01 | WINDOW, RAY CATCHER | |
| 4 | 4-906-878-01 | KNOB (SURROUND), T | |
| 5 | 3-703-710-41 | STICKFP SONY SYMBOL (12) | |
| 6 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| 7 | *4-906-877-01 | BRACKET (A), VIDEO JACK | |
| 8 | 4-906-872-01 | KNOB, SQUARE | |
| 9 | *3-317-118-00 | HOLDER (A), LED | |
| 10 | *4-906-892-01 | CUSHION (C) | |
| 11 | 3-332-417-22 | KNOB (MAIN POWER), PUSH | |
| 12 | *4-915-951-01 | PLATE, SHIELD | |
| 13 | 4-886-821-01 | SCREW, M3 CASE | |
| 14 | 4-911-245-01 | CASE | |
| 15 | X-4864-303-0 | FOOT ASSY | |
| 16 | *4-911-243-01 | PLATE, BOTTOM | |
| 17 | 3-703-108-01 | SCREW +BV 3X6, S TIGHT | |
| 18 | *4-915-941-01 | HOLDER, FL | |
| 19 | 7-685-646-71 | SCREW +BVTP 3X8 TYPE2 N-S | |
| 20 | *4-888-110-00 | CASE, SHIELD | |
| 21 | 7-685-752-04 | SCREW +BVTT 3X8 (S) | |
| 22 | 7-623-508-01 | LUG, 3 | |
| 903 | *A-4472-198-A | MOUNTED PCB, DISPLAY | |
| 913 | *1-619-574-11 | PC BOARD, SPEAKER SW | |
| 914 | *1-619-576-11 | PC BOARD, H.P | |
| 915 | *1-619-578-11 | PC BOARD, RAY CATCHER | |
| 916 | *1-619-573-11 | PC BOARD, SYSTEM SW | |
| 927 | *1-619-596-11 | PC BOARD, JACK | |
| BA301 | 1-528-120-00 | BATTERY, LITHIUM (CR-2025) | |
| CNJ902 | 1-507-863-21 | JACK, LARGE TYPE | |
| D310 | 8-719-939-39 | DIODE GL5HD8 | |
| FL301 | 1-519-392-11 | INDICATOR TUBE, FLUORESCENT | |



(2)

920
919
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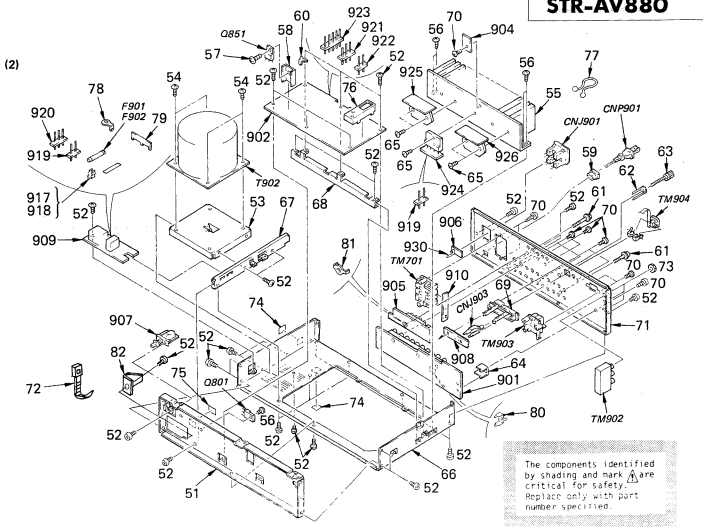
909
72

| No. | |
|---|---|
| 51 | |
| 52 | |
| 53 | |
| 54 | |
| 55 | |
| 56 | |
| 58 | |
| 59 | |
| 60 | |
| 61 | |
| 62 | - |
| 63 | 3 |
| 64 | *4 |
| 65 | 7 |
| 66 | *4 |
| 67 | *4 |
| 68 | *4 |
| 69 | 4 |
| 70 | 7 |
| 71 | *4 |
| 72 | 3 |
| 73 | 3 |
| 74 | 3 |
| 75 | 3 |
| 76 | *4 |
| 77 | 2 |
| 78 | 4 |
| 79 | *4 |
| 80 | *4 |
| 81 | *4 |
| 82 | 4 |
| 901 | *A |
| 902 | *A |
| 904 | *1 |

(2)



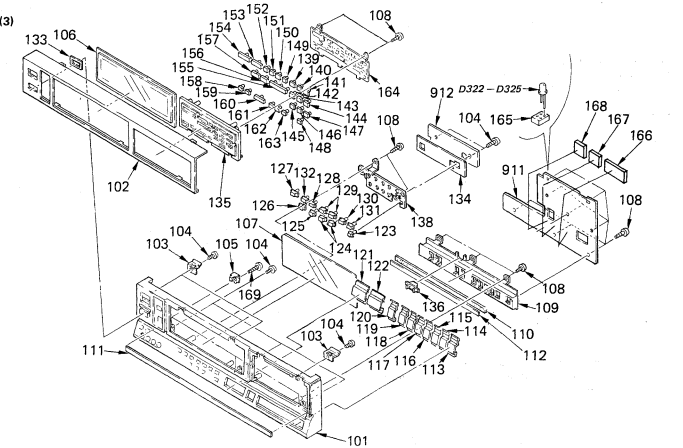

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 51 | *4-915-914-01 | CHASSIS, AMPLIFIER | |
| 52 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| 53 | *4-911-239-01 | BRACKET, TRANSFORMER | |
| 54 | 7-685-881-01 | SCREW +BVTT 4X8 (S) | |
| 55 | *4-915-945-01 | HEAT SINK (A) | |
| 56 | 7-685-752-04 | SCREW +BVTT 3X8 (S) | |
| 58 | *4-880-403-21 | HEAT SINK | |
| 59 | 3-703-244-00 | BUSHING (2104), CORD | |
| 60 | *4-904-446-01 | PLATE, GROUND | |
| 61 | 4-904-486-01 | SCREW (F.U), GROUND | |
| 62 | 3-701-993-00 | SPACER, TERMINAL | |
| 63 | 3-706-165-00 | SCREW | |
| 64 | *4-915-905-01 | BRACKET, PC BOARD | |
| 65 | 7-685-650-71 | SCREW +BVTP 3X16 TYPE2 IT-3 | |
| 66 | *4-911-244-01 | CHASSIS, MAIN | |
| 67 | *4-911-238-01 | FRAME | |
| 68 | *4-915-944-01 | BRACKET, PC BOARD | |
| 69 | 4-915-908-01 | HOLDER, MINIATURE JACK | |
| 70 | 7-685-646-71 | SCREW +BVTP 3X8 TYPE2 N-S | |
| 71 | *4-906-864-11 | PLATE, JACK | |
| 72 | 3-701-748-00 | CLAMP | |
| 73 | 3-682-691-00 | NUT, WASHER HEXAGON | |
| 74 | 3-703-680-00 | LABEL, CAUTION, SUB, NEW UL | |
| 75 | 3-703-044-26 | LABEL, CAUTION | |
| 76 | *4-906-803-01 | CASE, SHIELD | |
| 77 | 2-056-666-00 | PURSE LOCK (8 DIA) | |
| 78 | 4-870-539-00 | PLATE, GROUND | |
| 79 | *4-915-968-01 | REINFORCEMENT | |
| 80 | *4-904-485-01 | PLATE (F.U), GROUND | |
| 81 | *4-915-906-01 | PLATE (H.O), GROUND | |
| 82 | 4-919-130-01 | PCB HOLDER | |
| 901 | *A-4382-258-A | MOUNTED PCB, INPUT | |
| 902 | *A-4410-297-A | MOUNTED PCB, MAIN | |
| 904 | *1-619-583-11 | PC BOARD, HOLDER | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 905 | *1-619-585-11 | PC BOARD, VIDEO | |
| 906 | *1-619-587-11 | PC BOARD, AC OUTLET | |
| 907 | *1-619-588-11 | PC BOARD, AC SW | |
| 908 | *1-619-589-11 | PC BOARD, REMOTE CONTROL TM | |
| 909 | *1-619-586-11 | PC BOARD, FUSE | |
| 910 | *1-619-575-11 | PC BOARD, SPEAKER TM | |
| 917 | 1-533-183-11 | HOLDER, FUSE | |
| 918 | *1-533-185-11 | HOLDER, FUSE | |
| 919 | *1-535-139-00 | BASE POST 19MM (10MM PITCH) 2P | |
| | *1-535-139-00 | BASE POST 22MM (10MM PITCH) 2P | |
| 920 | *1-535-140-00 | BASE POST 19MM (10MM PITCH) 3P | |
| 921 | *1-508-810-00 | 14MM BASE POST | |
| 922 | *1-508-809-00 | BASE POST (14MM) 2P | |
| 923 | *1-508-812-00 | BASE POST (14MM) 5P | |
| 924 | *1-619-582-11 | PC BOARD, RECTIFIER | |
| 925 | *1-619-580-11 | PC BOARD, IC-L | |
| 926 | *1-619-581-11 | PC BOARD, IC-R | |
| 930 | 1-535-416-00 | TERMINAL | |
| CNJ901 | 1-526-883-00 | OUTLET, AC | |
| CNJ903 | 1-507-450-00 | JACK (VISUAL OUT) | |
| CNP901 | 1-558-686-11 | CORD, POWER | |
| F901 | ⚠1-532-509-00 | FUSE, GLASS TUBE 6.3A, 125V | |
| F902 | ⚠1-532-598-00 | FUSE, GLASS TUBE 4A, 125V | |
| Q801 | 8-729-107-25 | TRANSISTOR 2SD1585-L | |
| Q851 | 8-729-111-67 | TRANSISTOR 2SB1094-L | |
| T902 | ⚠1-448-522-11 | TRANSFORMER, POWER | |
| TM701 | 1-536-706-00 | TERMINAL BOARD (SP) | |
| TM902 | 1-513-385-21 | SELECTOR, ANTENNA | |
| TM903 | 1-536-895-11 | TERMINAL BOARD (ANTENNA) | |
| TM904 | 1-558-349-11 | CORD (WITH CONNECTOR) | |



(3)




| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 101 | X-4906-779-1 | PANEL ASSY, FRONT | |
| 102 | 4-915-901-01 | PLATE, ORNAMENTAL | |
| 103 | 4-906-885-01 | STOPPER (A) | |
| 104 | 7-685-871-01 | SCREW +BVTT 3X6 (S) | |
| 105 | 4-906-886-01 | STOPPER (B) | |
| 106 | 4-906-893-01 | PLATE, FROSTED | |
| 107 | *4-906-894-21 | FILTER | |
| 108 | 7-685-646-71 | SCREW +BVTP 3X8 TYPE2 N-S | |
| 109 | *4-906-898-01 | HINGE | |
| 110 | *4-915-938-01 | CUSHION (D) | |
| 111 | 4-906-876-01 | PLATE, ORNAMENTAL, FUNCTION | |
| 112 | *4-915-947-01 | TAPE, COPPER LEAF | |
| 113 | 4-906-873-01 | KNOB (FUNCTION A), T (PHONO) | |
| 114 | 4-906-873-11 | KNOB (FUNCTION A), T (FM/AM) | |
| 115 | 4-906-873-21 | KNOB (FUNCTION A), T (CD/AUX) | |
| 116 | 4-906-873-31 | KNOB (FUNCTION A), T (TAPE 1, TAPE 1->2) | |
| 117 | 4-906-873-41 | KNOB (FUNCTION A), T (TV) | |
| 118 | 4-906-873-51 | KNOB (FUNCTION A), T (VIDEO 2) | |
| 119 | 4-906-873-61 | KNOB (FUNCTION A), T (VIDEO 1) | |
| 120 | 4-906-873-71 | KNOB (FUNCTION A), T (TAPE 2/MONITOR) | |
| 121 | 4-906-874-01 | KNOB (VOLUME), T (-) | |
| 122 | 4-906-874-11 | KNOB (VOLUME), T (+) | |
| 123 | 4-906-888-01 | KNOB (F)(MUTING) | |
| 124 | 4-906-887-31 | KNOB (E)(TONE:-) | |
| 125 | 4-906-887-81 | KNOB (E)(ACOUSTIC:MEMORY) | |
| 126 | 4-906-887-71 | KNOB (E)(SUBSONIC) | |
| 127 | 4-906-887-61 | KNOB (E)(FIR) | |
| 128 | 4-906-887-41 | KNOB (E)(ACOUSTIC:SELECT) | |
| 129 | 4-906-887-21 | KNOB (E)(TONE:+) | |
| 130 | 4-906-887-01 | KNOB (E)(BALANCE:L) | |
| 131 | 4-906-887-11 | KNOB (E)(BALANCE:R) | |
| 132 | 4-906-887-51 | KNOB (E)(ACOUSTIC:FLAT) | |
| 133 | *3-318-916-01 | ESCUTCHEON (B), POWER KNOB | |
| 134 | *4-906-891-01 | CUSHION (B) | |
| 135 | X-4906-782-1 | PANEL ASSY, CONTROL | |
| 136 | *4-906-889-01 | HOUSE, LED | |
| 138 | *4-906-895-01 | RETAINER (A), TONE BUTTON | |

| No. | Part No. | Description | Remarks |
|---|---|---|---|
| 139 | 4-915-939-01 | KNOB (A)(1) | |
| 140 | 4-915-939-11 | KNOB (A)(2) | |
| 141 | 4-915-939-21 | KNOB (A)(3) | |
| 142 | 4-915-939-31 | KNOB (A)(4) | |
| 143 | 4-915-939-41 | KNOB (A)(5) | |
| 144 | 4-915-939-51 | KNOB (A)(6) | |
| 145 | 4-915-939-61 | KNOB (A)(7) | |
| 146 | 4-915-939-71 | KNOB (A)(8) | |
| 147 | 4-915-939-81 | KNOB (A)(9) | |
| 148 | 4-915-939-91 | KNOB (A)(0) | |
| 149 | 4-906-880-01 | KNOB (A)(AM) | |
| 150 | 4-906-880-11 | KNOB (A)(FM ANT-B) | |
| 151 | 4-906-880-21 | KNOB (A)(FM ANT-A CATV) | |
| 152 | 4-906-880-61 | KNOB (A)(FM IF BAND) | |
| 153 | 4-906-884-21 | KNOB (B)(FM MODE) | |
| 154 | 4-906-882-31 | KNOB (C)(METER,SELECT) | |
| 155 | 4-906-883-21 | KNOB (D)(- STATION SCAN +) | |
| 156 | 4-906-880-71 | KNOB (A)(FM LEVEL) | |
| 157 | 4-906-884-31 | KNOB (B)(SEARCH/START) | |
| 158 | 4-906-880-81 | KNOB (A)(VIDEO) | |
| 159 | 4-906-880-91 | KNOB (A)(AUDEO) | |
| 160 | 4-906-882-21 | KNOB (C)(CARTRIDGE) | |
| 161 | 4-906-880-41 | KNOB (A)(MEMORY:ERASE) | |
| 162 | 4-906-880-51 | KNOB (A)(MEMORY:SCAN) | |
| 163 | 4-906-880-31 | KNOB (A)(MEMORY:PRESET) | |
| 164 | *4-906-896-01 | RETAINER CONTROL BUTTON | |
| 165 | *4-881-653-00 | SPACER, LED | |
| 166 | *4-915-976-01 | SHEET (B), KEY | |
| 167 | *4-915-977-01 | SHEET (C), KEY | |
| 168 | *4-915-978-01 | SHEET (D), KEY | |
| 169 | 7-685-752-04 | SCREW +BVTT 3X8 (S) | |
| 911 | *1-619-571-11 | PC BOARD, KFY | |
| 912 | *1-619-572-11 | PC BOARD, TONE | |
| D322 | 8-719-930-33 | DIODE GL-3PR3 | |
| D323 | 8-719-930-33 | DIODE GL-3PR3 | |
| D324 | 8-719-930-33 | DIODE GL-3PR3 | |
| D325 | 8-719-930-33 | DIODE GL-3PR3 | |

# SECTION 4
# ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| 901 | *A-4382-258-A | MOUNTED PCB, INPUT | | |
| 902 | *A-4410-297-A | MOUNTED PCB, MAIN | | |
| 903 | *A-4472-198-A | MOUNTED PCB DISPLAY | | |
| 904 | *1-619-583-11 | PC BOARD, HOLDER | | |
| 905 | *1-619-585-11 | PC BOARD, VIDEO | | |
| 906 | *1-619-587-11 | PC BOARD, AC OUTLET | | |
| 907 | *1-619-588-11 | PC BOARD, AC SW | | |
| 908 | *1-619-589-11 | PC BOARD, REMOTE CONTROL TM | | |
| 909 | *1-619-586-11 | PC BOARD, FUSE | | |
| 910 | *1-619-575-11 | PC BOARD, SPEAKER TM | | |
| 911 | *1-619-571-11 | PC BOARD, KEY | | |
| 912 | *1-619-572-11 | PC BOARD, TONE | | |
| 913 | *1-619-574-11 | PC BOARD, SPEAKFR SW | | |
| 914 | *1-619-576-11 | PC BOARD, H.P | | |
| 915 | *1-619-578-11 | PC BOARD, RAY CATCHER | | |
| 916 | *1-619-573-11 | PC BOARD, SYSTEM SW | | |
| 917 | 1-533-183-11 | HOLDER, FUSE | | |
| 918 | *1-533-185-11 | HOLDER, FUSE | | |
| 919 | *1-535-139-00 | BASE POST 19MM (10MM PITCH) 2P | | |
| | *1-535-139-00 | BASE POST 22MM (10MM PITCH) 2P | | |
| 920 | *1-535-140-00 | BASE POST 19MM (10MM PITCH) 3P | | |
| 921 | *1-508-810-00 | 14MM BASE POST | | |
| 922 | *1-508-809-00 | BASE POST (14MM) 2P | | |
| 923 | *1-508-812-00 | BASE POST (14MM) 5P | | |
| 924 | *1-619-582-11 | PC BOARD, RECTIFIER | | |
| 925 | *1-619-580-11 | PC BOARD, IC-L | | |
| 926 | *1-619-581-11 | PC BOARD, IC-R | | |
| 927 | *1-619-596-11 | PC BOARD, JACK | | |
| 928 | 2-056-666-00 | PURSE LOCK (8 DIA.) | | |
| 930 | 1-535-416-00 | TERMINAL | | |
| BA301 | 1-528-120-00 | BATTERY, LITHIUM (CR-2025) | | |
| C101 | 1-162-198-31 | CERAMIC | 8.2PF | 10% 50V |
| C102 | 1-162-198-31 | CERAMIC | 8.2PF | 10% 50V |
| C103 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C104 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C105 | 1-162-199-31 | CERAMIC | 10PF | 5% 50V |
| C106 | 1-162-199-31 | CERAMIC | 10PF | 5% 50V |
| C107 | 1-162-191-31 | CERAMIC | 2.2PF | 10% 50V |
| C108 | 1-162-203-31 | CERAMIC | 15PF | 5% 50V |
| C109 | 1-162-286-31 | CERAMIC | 220PF | 10% 50V |
| C110 | 1-162-187-31 | CERAMIC | 1PF | 20% 50V |
| C115 | 1-101-005-00 | CERAMIC | 0.022MF | 50V |
| C116 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C117 | 1-162-211-31 | CERAMIC | 33PF | 5% 50V |
| C118 | 1-162-203-31 | CERAMIC | 15PF | 5% 50V |
| C119 | 1-162-198-31 | CERAMIC | 8.2PF | 10% 50V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| C120 | 1-162-196-31 | CERAMIC | 5.6PF | 10% 50V |
| C121 | 1-162-187-31 | CERAMIC | 1PF | 20% 50V |
| C122 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C123 | 1-123-332-00 | ELECT | 47MF | 20% 16V |
| C124 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C125 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C126 | 1-124-907-00 | ELECT | 10MF | 20% 50V |
| C127 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C128 | 1-162-294-31 | CERAMIC | 0.001MF | 10% 50V |
| C129 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C130 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C131 | 1-162-294-31 | CERAMIC | 0.001MF | 10% 50V |
| C135 | 1-136-169-00 | FILM | 0.22MF | 5% 50V |
| C136 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C137 | 1-162-294-31 | CERAMIC | 0.001MF | 10% 50V |
| C138 | 1-162-205-31 | CERAMIC | 18PF | 5% 50V |
| C141 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C142 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C143 | 1-162-211-31 | CERAMIC | 33PF | 5% 50V |
| C144 | 1-124-925-11 | ELECT | 2.2MF | 20% 100V |
| C145 | 1-124-907-00 | ELECT | 10MF | 20% 50V |
| C146 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C147 | 1-136-165-00 | FILM | 0.1MF | 5% 50V |
| C148 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C149 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C150 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C151 | 1-123-332-00 | ELECT | 47MF | 20% 16V |
| C152 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C153 | 1-162-306-31 | CERAMIC | 0.01MF | 30% 16V |
| C154 | 1-162-288-31 | CERAMIC | 330PF | 10% 50V |
| C155 | 1-136-161-00 | FILM | 0.047MF | 5% 50V |
| C156 | 1-124-907-00 | ELECT | 10MF | 20% 50V |
| C157 | 1-104-071-00 | POLYSTYRENE | 560PF | 5% 50V |
| C158 | 1-104-071-00 | POLYSTYRENE | 560PF | 5% 50V |
| C159 | 1-124-903-00 | ELECT | 1MF | 20% 50V |
| C160 | 1-124-907-00 | ELECT | 10MF | 20% 50V |
| C161 | 1-124-907-00 | ELECT | 10MF | 20% 50V |
| C162 | 1-136-161-00 | FILM | 0.047MF | 5% 50V |
| C163 | 1-124-903-00 | ELECT | 1MF | 20% 50V |
| C164 | 1-124-903-00 | ELECT | 1MF | 20% 50V |
| C165 | 1-124-902-00 | ELECT | 0.47MF | 20% 50V |
| C166 | 1-123-332-00 | ELECT | 47MF | 20% 16V |
| C167 | 1-124-903-00 | ELECT | 1MF | 20% 50V |
| C172 | 1-102-526-00 | CERAMIC | 75PF | 5% 50V |
| C173 | 1-102-852-00 | CERAMIC | 47PF | 5% 50V |

## ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| CNJ1 | *1-564-507-31 | PLUG, CONNECTOR 4P |
| CNJ2 | *1-564-506-11 | PLUG, CONNECTOR 3P |
| CNJ3 | *1-564-506-11 | PLUG, CONNECTOR 3P |
| CNJ4 | *1-564-506-11 | PLUG, CONNECTOR 3P |
| CNJ5 | *1-564-505-21 | PLUG, CONNECTOR 2P |
| CNJ6 | *1-564-506-11 | PLUG, CONNECTOR 3P |
| CNJ21 | *1-564-518-11 | PLUG, CONNECTOR 3P |
| CNJ22 | *1-564-517-11 | PLUG, CONNECTOR 2P |
| CNJ31 | *1-564-511-41 | PLUG, CONNECTOR 8P |
| CNJ32 | *1-564-506-11 | PLUG, CONNECTOR 3P |
| CNJ33 | *1-564-507-41 | PLUG, CONNECTOR 4P |
| CNJ34 | *1-564-508-11 | PLUG, CONNECTOR 5P |
| CNJ35 | *1-564-518-11 | PLUG, CONNECTOR 3P |
| CNJ401 | 1-507-876-00 | JACK, PIN 2P |
| CNJ402 | 1-507-876-00 | JACK, PIN 2P |
| CNJ403 | 1-563-202-11 | JACK, PIN 1P |
| CNJ411 | 1-507-877-00 | JACK, PIN 4P |
| CNJ412 | 1-507-877-00 | JACK, PIN 4P |
| CNJ413 | 1-507-877-00 | JACK, PIN 4P |
| CNJ414 | 1-507-877-00 | JACK, PIN 4P |
| CNJ415 | 1-507-877-00 | JACK, PIN 4P |
| CNJ821 | *1-564-497-11 | PIN, CONNECTOR 4P |
| CNJ822 | *1-564-501-11 | PIN, CONNECTOR 8P |
| CNJ901 | 1-526-883-00 | OUTLET, AC |
| CNJ902 | 1-507-863-21 | JACK, LARGE TYPE |
| CNJ903 | 1-507-450-00 | JACK (VISUAL OUT) |
| CNP101 | 1-507-567-21 | PIN JACK 1P |
| CNP401 | 1-563-284-11 | JACK, PIN 3P |
| CNP901 | 1-538-688-11 | CORD, POWER |
| CP801 | 1-102-394-00 | CERAMIC 0.01MF 250V |
| CP802 | 1-102-394-00 | CERAMIC 0.01MF 250V |
| CP803 | 1-102-394-00 | CERAMIC 0.01MF 250V |
| CP804 | 1-102-394-00 | CERAMIC 0.01MF 250V |
| CT201 | 1-141-265-11 | CAP, TRIMMER |
| CT202 | 1-141-265-11 | CAP, TRIMMER |
| D101 | 8-719-901-56 | DIODE KV1320 |
| D102 | 8-719-901-56 | DIODE KV1320 |
| D103 | 8-719-901-56 | DIODE KV1320 |
| D104 | 8-719-901-56 | DIODE KV1320 |
| D105 | 8-719-940-76 | DIODE 1SS132 |
| D141 | 8-719-815-55 | DIODE 1SI555 |
| D142 | 8-719-815-55 | DIODE 1SI555 |
| D143 | 8-719-815-55 | DIODE 1SI555 |
| D144 | 8-719-815-55 | DIODE 1SI555 |
| D171 | 8-719-940-76 | DIODE 1SS132 |
| D172 | 8-719-940-76 | DIODE 1SS132 |
| D201 | 8-719-940-76 | DIODE 1SS132 |
| D202 | 8-719-912-27 | DIODE KV1226 |
| D203 | 8-719-940-76 | DIODE 1SS132 |
| D211 | 8-719-000-12 | DIODE MC931 |
| D254 | 8-719-940-76 | DIODE 1SS132 |
| D255 | 8-719-940-76 | DIODE 1SS132 |
| D301 | 8-719-951-13 | DIODE HZ5CLL |
| D302 | 8-719-940-76 | DIODE 1SS132 |
| D303 | 8-719-940-76 | DIODE 1SS132 |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

## ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| D304 | 8-719-940-76 | DIODE 1SS132 |
| D305 | 8-719-940-76 | DIODE 1SS132 |
| D306 | 8-719-942-33 | DIODE HZ3CLL |
| D307 | 8-719-118-33 | DIODE PH302 |
| D308 | 8-719-940-76 | DIODE 1SS132 |
| D309 | 8-719-940-76 | DIODE 1SS132 |
| D310 | 8-719-939-39 | DIODE GL5HD8 |
| D311 | 8-719-940-76 | DIODE 1SS132 |
| D312 | 8-719-940-76 | DIODE 1SS132 |
| D322 | 8-719-930-33 | DIODE GL-3PR3 |
| D323 | 8-719-930-33 | DIODE GL-3PR3 |
| D324 | 8-719-930-33 | DIODE GL-3PR3 |
| D325 | 8-719-930-33 | DIODE GL-3PR3 |
| D376 | 8-719-800-86 | DIODE TLG255 |
| D401 | 8-719-951-13 | DIODE HZ5CLL |
| D402 | 8-719-951-13 | DIODE HZ5CLL |
| D403 | 8-719-940-76 | DIODE 1SS132 |
| D404 | 8-719-940-76 | DIODE 1SS132 |
| D501 | 8-719-940-76 | DIODE 1SS132 |
| D502 | 8-719-951-13 | DIODE HZ5CLL |
| D701 | 8-719-940-76 | DIODE 1SS132 |
| D702 | 8-719-940-76 | DIODE 1SS132 |
| D703 | 8-719-940-76 | DIODE 1SS132 |
| D704 | 8-719-911-19 | DIODE 1SS119 |
| D751 | 8-719-911-19 | DIODE 1SS119 |
| D752 | 8-719-911-19 | DIODE 1SS119 |
| D753 | 8-719-911-19 | DIODE 1SS119 |
| D801 | 8-719-901-62 | DIODE HZ16-2L |
| D802 | 8-719-910-11 | DIODE HZ11A1L |
| D803 | 8-719-910-69 | DIODE HZ6C3L |
| D804 | 8-719-910-43 | DIODE HZ24-3L |
| D805 | 8-719-910-69 | DIODE HZ6C3L |
| D806 | 8-719-914-11 | DIODE HZ4ALL |
| D807 | 8-719-911-19 | DIODE 1SS119 |
| D808 | 8-719-914-11 | DIODE HZ4ALL |
| D811 | 8-719-911-19 | DIODE 1SS119 |
| D812 | 8-719-511-20 | DIODE S1VB20 |
| D813 | 8-719-302-38 | DIODE RBV-602-01 |
| D815 | 8-719-511-20 | DIODE S1VB20 |
| D816 | 8-719-000-06 | DIODE MC921 |
| D851 | 8-719-901-62 | DIODE HZ16-2L |
| D852 | 8-719-910-11 | DIODE HZ11A1L |
| D854 | 8-719-913-62 | DIODE HZ36-2L |
| D901 | 8-719-911-19 | DIODE 1SS119 |
| F901 ⚠ | 1-532-509-00 | FUSE, GLASS TUBE 6.3A, 125V |
| F902 ⚠ | 1-532-598-00 | FUSE, GLASS TUBE 4A, 125V |
| FL301 | 1-519-392-11 | INDICATOR TUBE, FLUORESCENT |
| IC101 | 8-759-106-61 | IC UPC4570HA |
| IC102 | 8-759-812-35 | IC LA1235 |
| IC103 | 8-759-801-80 | IC LA3401 |
| IC104 | 8-757-925-20 | IC CX-79258 |
| IC201 | 8-759-812-45 | IC LA1245 |
| IC251 | 8-759-303-83 | IC HD614022FE59 |
| IC301 | 8-759-203-97 | IC TC5090AP |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| IC302 | 8-759-240-51 | IC TC4051BP |
| IC303 | 8-759-602-54 | IC CX20106A |
| IC304 | 8-759-106-41 | IC UPC4570C |
| IC305 | 8-759-303-48 | IC HD614042FE54 |
| IC306 | 1-807-133-11 | IC UPA80C |
| IC307 | 1-807-133-11 | IC UPA80C |
| IC308 | 8-759-303-49 | IC HD614042FE22 |
| IC321 | 8-759-927-62 | IC MSM6402A-144GS-K |
| IC401 | 8-759-800-37 | IC LC40668H |
| IC402 | 8-759-800-37 | IC LC40668H |
| IC403 | 8-759-800-37 | IC LC40668H |
| IC404 | 8-759-307-70 | IC CX-770A |
| IC501 | 8-759-602-02 | IC M5219P |
| IC502 | 8-759-890-00 | IC CX-789 |
| IC503 | 8-759-106-61 | IC UPC4570HA |
| IC553 | 8-759-106-61 | IC UPC4570HA |
| IC601 | 8-759-106-41 | IC UPC4570C |
| IC602 | 8-759-106-41 | IC UPC4570C |
| IC603 | 8-759-106-41 | IC UPC4570C |
| IC701 | 8-759-106-41 | IC UPC4570C |
| IC702 | 8-749-900-26 | IC STK4044MK11 |
| IC752 | 8-749-900-26 | IC STK4044MK11 |
| L101 | 1-402-215-11 | COIL, ANT (W) |
| L102 | 1-426-273-11 | COIL, RF1 (W) |
| L103 | 1-426-275-11 | COIL, RF 2 (W) |
| L104 | 1-410-316-11 | MICRO INDUCTOR 1UH |
| L105 | *1-459-396-00 | COIL (WITH CORE) |
| L106 | 1-410-334-11 | MICRO INDUCTOR 100UH |
| L107 | 1-410-320-21 | MICRO INDUCTOR 2.2UH |
| L251 | 1-410-334-11 | MICRO INDUCTOR 100UH |
| L301 | 1-410-334-11 | MICRO INDUCTOR 100UH |
| L302 | 1-410-334-11 | MICRO INDUCTOR 100UH |
| L351 | 1-410-334-11 | MICRO INDUCTOR 100UH |
| L501 | 1-407-519-00 | INDUCTOR |
| L551 | 1-407-519-00 | INDUCTOR |
| L701 | *1-420-872-00 | COIL, AIR CORE |
| L751 | *1-420-872-00 | COIL, AIR CORE |
| LPF101 | 1-235-164-00 | FILTER, LOW PASS |
| LPF102 | 1-235-164-00 | FILTER, LOW PASS |
| Q101 | 8-729-318-51 | TRANSISTOR 3SK85 |
| Q102 | 8-729-353-52 | TRANSISTOR 2SC535 |
| Q103 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q104 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q121 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q122 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q123 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q124 | 8-729-672-42 | TRANSISTOR 2SC794-C |
| Q131 | 8-729-117-54 | TRANSISTOR 2SA1175 |
| Q132 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q133 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q141 | 8-729-672-42 | TRANSISTOR 2SC724-C |
| Q142 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q143 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q171 | 8-729-224-61 | TRANSISTOR 2SK246Y |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| Q181 | 8-729-203-05 | TRANSISTOR 2SK30AGR3 |
| Q182 | 8-729-600-27 | TRANSISTOR 2SC634SP |
| Q201 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q202 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q203 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q204 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q251 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q252 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q253 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q254 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q255 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q256 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q257 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q258 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q301 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q302 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q303 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q311 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q312 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q313 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q314 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q315 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q321 | 8-729-900-63 | TRANSISTOR DTA124ES |
| Q322 | 8-729-900-63 | TRANSISTOR DTA124ES |
| Q323 | 8-729-900-63 | TRANSISTOR DTA124ES |
| Q324 | 8-729-900-63 | TRANSISTOR DTA124ES |
| Q325 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q401 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q402 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q403 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q404 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q405 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q501 | 8-729-217-03 | TRANSISTOR 2SK170 |
| Q502 | 8-729-217-03 | TRANSISTOR 2SK170 |
| Q503 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q551 | 8-729-217-03 | TRANSISTOR 2SK170 |
| Q552 | 8-729-217-03 | TRANSISTOR 2SK170 |
| Q601 | 8-729-117-54 | TRANSISTOR 2SA1175 |
| Q704 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q705 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q706 | 8-729-108-14 | TRANSISTOR 2SA988F |
| Q707 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q708 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q709 | 8-729-108-05 | TRANSISTOR 2SC1841PA |
| Q710 | 8-729-806-16 | TRANSISTOR 2SA1346 |
| Q711 | 8-729-806-34 | TRANSISTOR 2SC3400 |
| Q756 | 8-729-108-14 | TRANSISTOR 2SA988F |
| Q801 | 8-729-107-25 | TRANSISTOR 2SD1585-L |
| Q802 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q803 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q804 | 8-729-224-61 | TRANSISTOR 2SK246Y |
| Q805 | 8-729-178-54 | TRANSISTOR 2SC2785 |
| Q806 | 8-729-107-25 | TRANSISTOR 2SD1585-L |
| Q807 | 8-729-178-54 | TRANSISTOR 2SC2785 |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| Q808 | 8-729-806-16 | TRANSISTOR 2SA1346 | | | |
| Q809 | 8-729-806-16 | TRANSISTOR 2SA1346 | | | |
| Q810 | 8-729-806-16 | TRANSISTOR 2SA1346 | | | |
| Q851 | 8-729-111-67 | TRANSISTOR 2SB1094-L | | | |
| Q852 | 8-729-117-54 | TRANSISTOR 2SA1175 | | | |
| Q853 | 8-729-300-72 | TRANSISTOR 2SB647A | | | |
| R101 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R102 | 1-249-437-11 | CARBON | 47K | 5% | 1/6W |
| R103 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R104 | 1-249-437-11 | CARBON | 47K | 5% | 1/6W |
| R105 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R106 | 1-247-799-00 | CARBON | 47 | 5% | 1/6W |
| R107 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R108 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R109 | 1-247-901-00 | CARBON | 820K | 5% | 1/6W |
| R110 | 1-249-405-11 | CARBON | 100 | 5% | 1/6W |
| R111 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R112 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/6W |
| R113 | 1-247-853-00 | CARBON | 8.2K | 5% | 1/6W |
| R116 | 1-247-893-00 | CARBON | 390K | 5% | 1/6W |
| R117 | 1-249-405-11 | CARBON | 100 | 5% | 1/6W |
| R121 | 1-247-799-00 | CARBON | 47 | 5% | 1/6W |
| R122 | 1-247-823-00 | CARBON | 470 | 5% | 1/6W |
| R123 | 1-247-823-00 | CARBON | 470 | 5% | 1/6W |
| R124 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R125 | 1-249-434-11 | CARBON | 27K | 5% | 1/6W |
| R126 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R127 | 1-247-817-00 | CARBON | 270 | 5% | 1/6W |
| R128 | 1-247-859-00 | CARBON | 15K | 5% | 1/6W |
| R129 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R130 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R131 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W |
| R136 | 1-247-109-00 | CARBON | 120 | 5% | 1/4W |
| R137 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R138 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R141 | 1-247-903-00 | CARBON | 1M | 5% | 1/6W |
| R142 | 1-247-857-00 | CARBON | 12K | 5% | 1/6W |
| R143 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W |
| R144 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/6W |
| R145 | 1-247-873-00 | CARBON | 56K | 5% | 1/6W |
| R146 | 1-247-887-00 | CARBON | 220K | 5% | 1/6W |
| R147 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R148 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R149 | 1-249-405-11 | CARBON | 100 | 5% | 1/6W |
| R150 | 1-247-851-00 | CARBON | 6.8K | 5% | 1/6W |
| R151 | 1-247-859-00 | CARBON | 15K | 5% | 1/6W |
| R152 | 1-247-851-00 | CARBON | 6.8K | 5% | 1/6W |
| R153 | 1-247-851-00 | CARBON | 6.8K | 5% | 1/6W |
| R161 | 1-247-873-00 | CARBON | 56K | 5% | 1/6W |
| R163 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R164 | 1-247-109-00 | CARBON | 120 | 5% | 1/4W |
| R165 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R166 | 1-249-433-11 | CARBON | 22K | 5% | 1/6W |
| R167 | 1-247-839-00 | CARBON | 2.2K | 5% | 1/6W |
| R169 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R170 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R171 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R173 | 1-247-883-00 | CARBON | 150K | 5% | 1/6W |
| R174 | 1-247-883-00 | CARBON | 150K | 5% | 1/6W |
| R175 | 1-247-881-00 | CARBON | 120K | 5% | 1/6W |
| R176 | 1-247-881-00 | CARBON | 120K | 5% | 1/6W |
| R177 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W |
| R178 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W |
| R179 | 1-247-859-00 | CARBON | 15K | 5% | 1/6W |
| R180 | 1-247-897-00 | CARBON | 560K | 5% | 1/6W |
| R181 | 1-247-109-00 | CARBON | 120 | 5% | 1/4W |
| R182 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W |
| R183 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R184 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R185 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R186 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W |
| R187 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W |
| R188 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W |
| R189 | 1-247-819-00 | CARBON | 330 | 5% | 1/6W |
| R190 | 1-247-145-00 | CARBON | 3.9K | 5% | 1/4W |
| R191 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R192 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W |
| R193 | 1-249-415-11 | CARBON | 680 | 5% | 1/6W |
| R194 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W |
| R195 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R196 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R197 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R198 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/6W |
| R199 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W |
| R202 | 1-249-435-11 | CARBON | 33K | 5% | 1/6W |
| R203 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W |
| R204 | 1-247-891-00 | CARBON | 330K | 5% | 1/6W |
| R211 | 1-247-704-11 | CARBON | 220 | 5% | 1/4W |
| R212 | 1-247-839-00 | CARBON | 2.2K | 5% | 1/6W |
| R213 | 1-247-823-00 | CARBON | 470 | 5% | 1/6W |
| R214 | 1-249-405-11 | CARBON | 100 | 5% | 1/6W |
| R215 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R216 | 1-247-805-00 | CARBON | 82 | 5% | 1/6W |
| R217 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W |
| R221 | 1-247-109-00 | CARBON | 120 | 5% | 1/4W |
| R222 | 1-247-857-00 | CARBON | 12K | 5% | 1/6W |
| R223 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W |
| R251 | 1-249-433-11 | CARBON | 22K | 5% | 1/6W |
| R252 | 1-247-903-00 | CARBON | 1M | 5% | 1/6W |
| R253 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R254 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R255 | 1-247-857-00 | CARBON | 12K | 5% | 1/6W |
| R256 | 1-247-857-00 | CARBON | 12K | 5% | 1/6W |
| R257 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R258 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R259 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W |
| R264 | 1-247-895-00 | CARBON | 470K | 5% | 1/6W |
| R265 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R266 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R267 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R268 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R269 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R270 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W |
| R271 | 1-247-857-00 | CARBON | 12K | 5% | 1/6W |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | | |
|---|---|---|---|---|---|---|
| R725 | 1-247-839-00 | CARBON | 2.2K | 5% | 1/6W | |
| R731 | 1-247-192-00 | CARBON | 10 | 5% | 1/2W | |
| R732 | 1-249-433-11 | CARBON | 22K | 5% | 1/6W | |
| R733 | 1-249-433-11 | CARBON | 22K | 5% | 1/6W | |
| R734 | 1-249-482-11 | CARBON | 4.7 | 5% | 1/2W | |
| R735 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W | |
| R736 | 1-249-441-11 | CARBON | 100K | 5% | 1/6W | |
| R737 | 1-247-873-00 | CARBON | 56K | 5% | 1/6W | |
| R738 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W | |
| R742⚠ | 1-213-140-00 | METAL OXIDE | 560 | 5% | 1W | F |
| R751 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W | |
| R752 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W | |
| R753 | 1-249-440-11 | CARBON | 82K | 5% | 1/6W | |
| R754 | 1-249-435-11 | CARBON | 33K | 5% | 1/6W | |
| R755 | 1-249-435-11 | CARBON | 33K | 5% | 1/6W | |
| R756 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W | |
| R757 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/6W | |
| R758 | 1-247-264-00 | CARBON | 10K | 5% | 1/2W | |
| R759 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W | |
| R760 | 1-249-435-11 | CARBON | 33K | 5% | 1/6W | |
| R761⚠ | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | F |
| R762⚠ | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | F |
| R763⚠ | 1-217-156-00 | RES, METAL PLATE 0.22 | | | | |
| R775 | 1-247-839-00 | CARBON | 2.2K | 5% | 1/6W | |
| R781 | 1-247-192-00 | CARBON | 10 | 5% | 1/2W | |
| R782 | 1-249-433-11 | CARBON | 22K | 5% | 1/6W | |
| R783 | 1-249-434-11 | CARBON | 27K | 5% | 1/6W | |
| R784 | 1-249-482-11 | CARBON | 4.7 | 5% | 1/2W | |
| R792⚠ | 1-213-140-00 | METAL OXIDE | 560 | 5% | 1W | F |
| R801⚠ | 1-247-076-00 | CARBON | 2.7 | 5% | 1/4W | F |
| R803⚠ | 1-207-682-00 | WIREWOUND | 47 | 10% | 5W | F |
| R804 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/6W | |
| R805 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W | |
| R806 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W | |
| R807⚠ | 1-247-704-11 | CARBON | 220 | 5% | 1/4W | F |
| R808⚠ | 1-213-137-00 | METAL OXIDE | 330 | 5% | 1W | F |
| R809⚠ | 1-247-704-11 | CARBON | 220 | 5% | 1/4W | F |
| R810 | 1-247-801-00 | CARBON | 56 | 5% | 1/6W | |
| R811 | 1-247-723-11 | CARBON | 6.8K | 5% | 1/4W | |
| R812 | 1-249-437-11 | CARBON | 47K | 5% | 1/6W | |
| R813 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W | |
| R814 | 1-249-417-11 | CARBON | 1K | 5% | 1/6W | |
| R816 | 1-249-429-11 | CARBON | 10K | 5% | 1/6W | |
| R817 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/6W | |
| R818⚠ | 1-247-073-00 | CARBON | 1.5 | 5% | 1/4W | |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | | |
|---|---|---|---|---|---|---|
| R819⚠ | 1-247-073-00 | CARBON | 1.5 | 5% | 1/4W | |
| R821 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W | |
| R822 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W | |
| R823 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/6W | |
| R851⚠ | 1-247-076-00 | CARBON | 2.7 | 5% | 1/4W | F |
| R853⚠ | 1-207-664-00 | WIREWOUND | 82 | 10% | 3W | F |
| R854 | 1-247-849-00 | CARBON | 5.6K | 5% | 1/6W | |
| R855 | 1-249-414-11 | CARBON | 560 | 5% | 1/6W | |
| R856 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/6W | |
| R901⚠ | 1-202-725-00 | SOLID | 3.3K | 10% | 1/2W | |
| RT101 | 1-123-630-11 | RES, ADJ, CARBON 10K | | | | |
| RT102 | 1-228-996-00 | RES, ADJ, CARBON 47K | | | | |
| RT141 | 1-228-996-00 | RES, ADJ, CARBON 47K | | | | |
| RT151 | 1-230-630-11 | RES, ADJ, CARBON 220K | | | | |
| RT201 | 1-230-630-11 | RES, ADJ, CARBON 10K | | | | |
| RY501 | 1-515-495-00 | RELAY | | | | |
| RY551 | 1-515-495-00 | RELAY | | | | |
| RY701 | 1-515-356-00 | RELAY | | | | |
| RY901⚠ | 1-515-606-11 | RELAY | | | | |
| S301 | 1-554-303-21 | SWITCH, KEY BOARD (FM ANT-A) | | | | |
| S302 | 1-554-303-21 | SWITCH, KEY BOARD (FM ANT-B) | | | | |
| S303 | 1-554-303-21 | SWITCH, KEY BOARD (AM) | | | | |
| S304 | 1-554-303-21 | SWITCH, KEY BOARD (SCAN) | | | | |
| S305 | 1-554-303-21 | SWITCH, KEY BOARD (METER SELECT) | | | | |
| S306 | 1-554-303-21 | SWITCH, KEY BOARD (FM IF BAND) | | | | |
| S307 | 1-554-303-21 | SWITCH, KEY BOARD (VIDEO) | | | | |
| S308 | 1-554-303-21 | SWITCH, KEY BOARD (1) | | | | |
| S309 | 1-554-303-21 | SWITCH, KEY BOARD (4) | | | | |
| S310 | 1-554-303-21 | SWITCH, KEY BOARD (7) | | | | |
| S311 | 1-554-303-21 | SWITCH, KEY BOARD (PRESET) | | | | |
| S312 | 1-554-303-21 | SWITCH, KEY BOARD (FM MODE) | | | | |
| S313 | 1-554-303-21 | SWITCH, KEY BOARD (SEARCH START) | | | | |
| S314 | 1-554-303-21 | SWITCH, KEY BOARD (FM LEVEL) | | | | |
| S315 | 1-554-303-21 | SWITCH, KEY BOARD (AUDIO) | | | | |
| S316 | 1-554-303-21 | SWITCH, KEY BOARD (2) | | | | |
| S317 | 1-554-303-21 | SWITCH, KEY BOARD (5) | | | | |
| S318 | 1-554-303-21 | SWITCH, KEY BOARD (8) | | | | |
| S319 | 1-554-303-21 | SWITCH, KEY BOARD (0) | | | | |
| S320 | 1-554-303-21 | SWITCH, KEY BOARD (ERASE) | | | | |
| S321 | 1-554-303-21 | SWITCH, KEY BOARD (3) | | | | |
| S322 | 1-554-303-21 | SWITCH, KEY BOARD (6) | | | | |
| S323 | 1-554-303-21 | SWITCH, KEY BOARD (9) | | | | |
| S325 | 1-554-303-21 | SWITCH, KEY BOARD (CARTRIDGH) | | | | |
| S326 | 1-554-303-21 | SWITCH, KEY BOARD (STATION SCAN:-) | | | | |
| S328 | 1-554-303-21 | SWITCH, KEY BOARD (STATION SCAN:+) | | | | |
| S329 | 1-554-303-21 | SWITCH, KEY BOARD (TAPE 1) | | | | |

## ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| S330 | 1-554-303-21 | SWITCH, KEY BOARD (TAPE 2) |
| S331 | 1-554-303-21 | SWITCH, KEY BOARD (VIDEO 1) |
| S332 | 1-554-303-21 | SWITCH, KEY BOARD (VIDEO 2) |
| S333 | 1-554-303-21 | SWITCH, KEY BOARD (TV) |
| S334 | 1-554-303-21 | SWITCH, KEY BOARD (PHONO) |
| S335 | 1-554-303-21 | SWITCH, KEY BOARD (TUNER) |
| S336 | 1-554-303-21 | SWITCH, KEY BOARD (CD/AUX) |
| S337 | 1-554-303-21 | SWITCH, KEY BOARD (VOLUME:-) |
| S338 | 1-554-303-21 | SWITCH, KEY BOARD (VOLUME:+) |
| S341 | 1-554-303-21 | SWITCH, KEY BOARD (BALANCE:R) |
| S342 | 1-554-303-21 | SWITCH, KEY BOARD (TREBLE:+) |
| S343 | 1-554-303-21 | SWITCH, KEY BOARD (TREBLE:-) |
| S344 | 1-554-303-21 | SWITCH, KEY BOARD (BALANCE:L) |
| S345 | 1-554-303-21 | SWITCH, KEY BOARD (VIDEO:2 F/R) |
| S346 | 1-554-303-21 | SWITCH, KEY BOARD (BASS:+) |
| S347 | 1-554-303-21 | SWITCH, KEY BOARD (BASS:-) |
| S348 | 1-554-303-21 | SWITCH, KEY BOARD (MUTE) |
| S349 | 1-554-303-21 | SWITCH, KEY BOARD (FLAT) |
| S350 | 1-554-303-21 | SWITCH, KEY BOARD (MEMORY) |
| S351 | 1-554-303-21 | SWITCH, KEY BOARD (ACCOUSTIC) |
| S361 | 1-554-303-21 | SWITCH, KEY BOARD (SUB SONIC) |
| S371 | 1-554-303-21 | SWITCH, KEY BOARD (SYSTEM POWER) |
| S372 | 1-554-303-21 | SWITCH, KEY BOARD (SURROUND) |
| S701 | 1-570-270-11 | SWITCH, PUSH (2 KEY)(SPEAKERS) |
| S901⚠ | 1-554-881-11 | SWITCH, PUSH (1 KEY)(POWER) |
| T101 | *1-404-363-00 | TRANSFORMER, IF |
| T102 | 1-404-339-00 | TRANSFORMER, DISCRIMINATOR |
| T103 | 1-404-338-00 | TRANSFORMER, DISCRIMINATOR (FM) |
| T201 | 1-402-197-11 | COIL (ANTENNA) |
| T202 | 1-405-927-00 | COIL, MW OSC |
| T211 | 1-404-623-11 | TRANSFORMER, RF |
| T901⚠ | 1-448-517-21 | TRANSFORMER, POWER |
| T902⚠ | 1-448-522-11 | TRANSFORMER, POWER |
| TM701 | 1-536-706-00 | TERMINAL BOARD (SP) |
| TM902 | 1-513-385-21 | SELECTOR, ANTENNA |
| TM903 | 1-536-895-11 | TERMINAL BOARD (ANTENNA) |
| TM904 | 1-558-349-11 | CORD (WITH CONNECTOR) |
| TP1 | *1-560-060-00 | PIN, CONNECTOR 2P (AM VC) |
| TP2 | *1-560-060-00 | PIN, CONNECTOR 2P (DC) |
| TP3 | *1-560-060-00 | PIN, CONNECTOR 2P (INITIAL) |
| TP4 | *1-560-060-00 | PIN, CONNECTOR 2P (NULL) |
| VR2R901 | 1-807-293-11 | VARISTOR (SNR-14A 140K) |
| X202 | 1-567-125-00 | VIBRATOR, CRYSTAL |

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

## ACCESSORY & PACKING MATERAL

| Part No. | Description |
|---|---|
| 1-463-727-11 | REMOTE COMMANDER (RM-U880) |
| 1-501-224-00 | ANTENNA, FEEDER |
| 1-501-349-11 | ANTENNA, LOOP |
| 1-513-379-00 | CONVERTER (EAC-25) |
| 1-556-372-41 | CORD, CONNECTION (4 CORE) |
| 3-701-630-00 | BAG, POLYETHYLENE |
| 3-703-390-01 | INSTRUCTION |
| 3-765-385-21 | MANUAL, INSTRUCTION |
| 3-765-387-21 | MANUAL, INSTRUCTION |
| 4-858-078-00 | SHEET, PROTECTION |
| 4-915-948-01 | CUSHION (RIGHT) |
| 4-915-949-01 | CUSHION (LEFT) |
| 4-915-952-01 | INDIVIDUAL CARTON |

# TROUBLESHOOTING

Before proceeding through the checklist below, examine the connections and the procedures outlined in the manual. Should any problem persist after you have checked the following items, consult your nearest Sony service facility.

| | PROBLEM | CAUSE | SOLUTION |
|---|---|---|---|
| Broadcast program | STEREO indicator flickers or does not appear when receiving stereo programs. | A very weak FM station or a noisy FM program is received. | Adjust the antenna or connect an external FM antenna. |
| | | | Press the FM MODE key to set to HI-BLEND or MONO mode. |
| | No FM station can be located by station searching. | The signal strength of the stations are weak. | Press the FM LEVEL key to set to MID or LOW level. |
| | No AM station can be located by station searching. | The AM tuning interval is set incorrectly. | Change the tuning interval according to the AM frequency allocation system of your country. (See page 3.) |
| | | The signal strength of the stations are too weak for station searching. | Adjust the antenna. |
| | | | Tune in the stations with the direct access tuning. |
| | Stations cannot be tuned in correctly when the number key is pressed. | The frequency has not been memorized correctly. | Memorize the frequency correctly. (See page 12.) |
| Video program | Picture does not appear. | VCR, TV tuner or TV connection is not correct. | Check and connect the equipment correctly. |
| | | The function switch on the VCR is not set correctly. | Check and set the switch appropriately. |
| | | The TV is not turned on. | Turn the TV on. |
| Amplifier | Sound is not heard. | The speaker or program source equipment is not connected correctly. | Check and connect the equipment correctly. |
| | | The SPEAKERS selectors are not set correctly. | Set the selectors correctly. (See page 9.) |
| | | The MONITOR key has been pressed for a program source other than tape deck 2. | Press to disengage it. |
| | | The correct FUNCTION key is not pressed. | Press the correct FUNCTION key. |
| | | The function switch on the VCR is not set correctly. | Check and set the switch appropriately. |
| | | The volume is set to minimum. | Increase the volume. |
| | One channel does not transmit audio, or the volume from the left and right speakers is unbalanced. | The BALANCE control keys are not set appropriately. | Adjust the BALANCE control keys. |
| | | The speaker or program source is not connected correctly. | Check and connect the equipment correctly. |
| | There is an abrupt loss of sound from one or both of the speakers, and the PROTECTOR indicator flickers in the display window. | A short-circuit problem activates the protective circuit. | Turn off the receiver, eliminate the short-circuit problem and turn on the power again. If there is no short-circuit, consult your nearest Sony dealer. |
| | Sound transmitted from the speakers is reversed. | The speakers are not connected correctly. | Connect the right speaker to the R SPEAKER terminals and the left speaker to the L SPEAKER terminals. |
| | There is lack of bass sound or the instrument position is not obscure. | The speaker is connected with the reversed polarities. | Connect the speaker with the correct ⊕ ⊖ polarities. |
| Amplifier | Severe hum or noise is heard. | The connecting cords are not of shielded type. | Use shielded connecting cords. |
| | | A transformer, motor, TV or fluorescent light affects the connecting cords. | Place the connecting cords in a location away from a transformer or motor, and at least 3 meters (10 feet) from a TV set or a fluorescent light. |
| | | The audio components are too close to a TV set. | If both are used at the same time, separate the TV from the audio components. |
| | | The receiver is not grounded. | Connect the ground wire to the antenna ground terminal. |
| | | The connections are loose. | Make secure connections. |
| | | The plugs and jacks are dirty. | Wipe the plugs and jacks with a cloth lightly dampened with alcohol. |
| | The Remote Commander does not operate. | The batteries are exhausted. | Replace the batteries with new ones. |
| | | The MAIN POWER switch on the receiver is not depressed. | Depress the MAIN POWER switch. |